

SEQUENCE LISTING

<110> Tozer, Eileen Collins
Zhang, Feiyu
Abulencia, Carl
Frey, Gerhardt
Parra-Gessert, Lilian

<120> FLUORESCENT PROTEINS, NUCLEIC ACIDS ENCODING THEM AND METHODS FOR MAKING AND USING THEM

<130> 09010-101w01

<140> not assigned

<141> 2003-07-21

<150> US 60/397,684

<151> 2002-07-19

<160> 198

<170> FastSEQ for windows Version 4.0

<210> 1

<211> 684

<212> DNA

<213> Unknown

<220>

<223> Obtained from an environmental sample

<400> 1

atgagtcatt	ccaagagtgt	gatcaaggat	gaaatgttca	tcaagattca	tctggaagga	60
acgttcaatg	ggcataagtt	tgaaatagaa	ggcgaaggac	acgggaagcc	ttatgcaggc	120
accaatttcg	ttaagcttgt	ggttaccagg	gggtggacctt	tgccatttgg	ttggcacatt	180
ttgtcgccac	aatttcagta	tggaacaag	acgtttgtca	gctaccctag	agacataccc	240
gattatataa	agcagtcatt	tcctgagggc	tttacctggg	aacggatcat	gaccttcgaa	300
gacgggtggcg	tgtgttgtat	caccagtgtat	atcagtttga	aaagcaacaa	ctgtttcttc	360
aacgacatca	agttcactgg	catgaacttt	cctccaaatg	gatctgttgt	gcagaagaag	420
acgataggct	gggaacccag	cactgagcgt	ttgtatctgc	gtgacggggt	gctgacagga	480
gacattgata	agacactgaa	gctcagcgga	gggtggtcatt	acacatgcgc	ctttaaact	540
atttacaggt	cgaagaagaa	cttgacgctg	cctgattgcc	tttactatgt	tgacaccaa	600
cttgatataa	ggaagttcga	cgaaaattac	atcaacgttg	agcaggatga	aattgctact	660
gcacgccacc	atgggcttaa	ataa				684

<210> 2

<211> 227

<212> PRT

<213> Unknown

<220>

<223> Obtained from an environmental sample

<400> 2

Met	Ser	His	Ser	Lys	Ser	Val	Ile	Lys	Asp	Glu	Met	Phe	Ile	Lys	Ile	
1				5				10					15			
His	Leu	Glu	Gly	Thr	Phe	Asn	Gly	His	Lys	Phe	Glu	Ile	Glu	Gly	Glu	
			20					25					30			
Gly	His	Gly	Lys	Pro	Tyr	Ala	Gly	Thr	Asn	Phe	Val	Lys	Leu	Val	Val	
		35					40					45				
Thr	Arg	Gly	Gly	Pro	Leu	Pro	Phe	Gly	Trp	His	Ile	Leu	Ser	Pro	Gln	
50						55					60					

Phe Gln Tyr Gly Asn Lys Thr Phe Val Ser Tyr Pro Arg Asp Ile Pro
 65 70 75 80
 Asp Tyr Ile Lys Gln Ser Phe Pro Glu Gly Phe Thr Trp Glu Arg Ile
 85 90 95
 Met Thr Phe Glu Asp Gly Gly Val Cys Cys Ile Thr Ser Asp Ile Ser
 100 105 110
 Leu Lys Ser Asn Asn Cys Phe Phe Asn Asp Ile Lys Phe Thr Gly Met
 115 120 125
 Asn Phe Pro Pro Asn Gly Ser Val Val Gln Lys Lys Thr Ile Gly Trp
 130 135 140
 Glu Pro Ser Thr Glu Arg Leu Tyr Leu Arg Asp Gly Val Leu Thr Gly
 145 150 155 160
 Asp Ile Asp Lys Thr Leu Lys Leu Ser Gly Gly His Tyr Thr Cys
 165 170 175
 Ala Phe Lys Thr Ile Tyr Arg Ser Lys Lys Asn Leu Thr Leu Pro Asp
 180 185 190
 Cys Leu Tyr Tyr Val Asp Thr Lys Leu Asp Ile Arg Lys Phe Asp Glu
 195 200 205
 Asn Tyr Ile Asn Val Glu Gln Asp Glu Ile Ala Thr Ala Arg His His
 210 215 220
 Gly Leu Lys
 225

<210> 3
 <211> 684
 <212> DNA
 <213> Unknown

<220>
 <223> Obtained from an environmental sample

<400> 3
 atgagtcatt ccaagagtgt gatcaaggat gaaatgttca tcaagattca tctggaagga 60
 acgttcaatg ggcacaagtt tgaaatagaa ggcgaaggac acggaagcc ttatgcaggc 120
 accaatttcg ttaagcttgt gggtaccaag ggtggacctt tgccatttgg ttggcacatt 180
 ttgtcgccac aatttcagta tggaaacaag acgtttgtca gctaccctag agacataccc 240
 gattatataa agcagtcatt tcctgagggc ttacatggg tacggatcat gacctttgaa 300
 gacgggtggcg tgtgttgtat caccagtgat atcagtttga aaagcaacaa ctgtttcttc 360
 aacgacatca agttcactgg catgaacttt cctccaaatg gacctgttgt gcagaagaag 420
 acgataggct gggaacccag cactgagcgt ttgtatctgc gtgacggggg gctgacagga 480
 gacattgata agacactgaa gctcagcgga ggtgggtcatt acacatgcgc ctttaaaact 540
 atttacaggt cgaagaagaa cttgacgtg cctgattgct ttactatgt tgacacaaa 600
 cttgatataa ggaagtgcga cgaaaattac atcaacgttg agcaggatga aattgctact 660
 gcacgccacc atgggcttaa ataa 684

<210> 4
 <211> 227
 <212> PRT
 <213> Unknown

<220>
 <223> Obtained from an environmental sample

<400> 4
 Met Ser His Ser Lys Ser Val Ile Lys Asp Glu Met Phe Ile Lys Ile
 1 5 10 15
 His Leu Glu Gly Thr Phe Asn Gly His Lys Phe Glu Ile Glu Gly Glu
 20 25 30
 Gly His Gly Lys Pro Tyr Ala Gly Thr Asn Phe Val Lys Leu Val Val
 35 40 45
 Thr Lys Gly Gly Pro Leu Pro Phe Gly Trp His Ile Leu Ser Pro Gln
 50 55 60
 Phe Gln Tyr Gly Asn Lys Thr Phe Val Ser Tyr Pro Arg Asp Ile Pro
 65 70 75 80

Met	Thr	Phe	Glu	Asp	Gly	Gly	Val	Cys	Cys	Ile	Thr	Ser	Asp	Ile	Ser
			100					105					110		
Leu	Lys	Ser	Asn	Asn	Cys	Phe	Phe	Asn	Asp	Ile	Lys	Phe	Thr	Gly	Met
		115					120					125			
Asn	Phe	Pro	Pro	Asn	Gly	Pro	Val	Val	Gln	Lys	Lys	Thr	Ile	Gly	Trp
		130				135					140				
Glu	Pro	Ser	Thr	Glu	Arg	Leu	Tyr	Leu	Arg	Asp	Gly	Val	Leu	Thr	Gly
145					150					155					160
Asp	Ile	Asp	Lys	Thr	Leu	Lys	Leu	Ser	Gly	Gly	Gly	His	Tyr	Thr	Cys
			165						170					175	
Ala	Phe	Lys	Thr	Ile	Tyr	Arg	Ser	Lys	Lys	Asn	Leu	Thr	Leu	Pro	Asp
			180					185					190		
Cys	Phe	Tyr	Tyr	Val	Asp	Thr	Lys	Leu	Asp	Ile	Arg	Lys	Phe	Asp	Glu
		195					200					205			
Asn	Tyr	Ile	Asn	Val	Glu	Gln	Asp	Glu	Ile	Ala	Thr	Ala	Arg	His	His
		210				215					220				
Gly	Leu	Lys													
225															

<210> 7
 <211> 684
 <212> DNA
 <213> Unknown

<220>
 <223> Obtained from an environmental sample

<400> 7	
atgagtcatt ccaagagtgt gatcaaggac gaaatgttca tcaagattca tctggaagga	60
acgttcaatg ggcacaagtt tgaaatagaa ggcgagggaa acggaagcc ttatgcaggc	120
accaatttcg ttaagcttgt gggtaccaag ggtgggcctc ttccatttgg ttggcacatt	180
ttgtcgccac aattacaata cgaaacaag tcgtttgtca gctaccctgc agacatacct	240
gattatataa agctgtcatt tcctgagggc tttacatggg aaaggatcat gacctttgaa	300
gacgggtggcg tgtgttgtat caccagtgtat atcagtatga aaagcaacaa ctgtttcttc	360
tacgacatca agttcactgg catgaacttt cctccaaatg gacctgttgt gcagaagaag	420
accacaggct ggaacccag tactgagcgt ttgtatctgc gtgacggggt gctgacagga	480
gacattcata agacactgaa gctcagcggg ggtgggtcatt acacatgcgt ctttaaaact	540
atttacaggt cgaagaagaa cttgacgctg cctgattgct tttactatgt tgacacacaa	600
cttgatataa ggaagtgcga cgaaaattac atcaacgttg agcaggatga aattgctact	660
gcacgccacc atgggcttaa ataa	684

<210> 8
 <211> 227
 <212> PRT
 <213> Unknown

<220>
 <223> Obtained from an environmental sample

<400> 8	
Met Ser His Ser Lys Ser Val Ile Lys Asp Glu Met Phe Ile Lys Ile	
1 5 10 15	
His Leu Glu Gly Thr Phe Asn Gly His Lys Phe Glu Ile Glu Gly Glu	
20 25 30	
Gly Asn Gly Lys Pro Tyr Ala Gly Thr Asn Phe Val Lys Leu Val Val	
35 40 45	
Thr Lys Gly Gly Pro Leu Pro Phe Gly Trp His Ile Leu Ser Pro Gln	
50 55 60	
Leu Gln Tyr Gly Asn Lys Ser Phe Val Ser Tyr Pro Ala Asp Ile Pro	
65 70 75 80	
Asp Tyr Ile Lys Leu Ser Phe Pro Glu Gly Phe Thr Trp Glu Arg Ile	
85 90 95	
Met Thr Phe Glu Asp Gly Gly Val Cys Ile Thr Ser Asp Ile Ser	
100 105 110	

Met Lys Ser Asn Asn Cys Phe Phe Tyr Asp Ile Lys Phe Thr Gly Met
 115 120 125
 Asn Phe Pro Pro Asn Gly Pro Val Val Gln Lys Lys Thr Thr Gly Trp
 130 135 140
 Glu Pro Ser Thr Glu Arg Leu Tyr Leu Arg Asp Gly Val Leu Thr Gly
 145 150 155 160
 Asp Ile His Lys Thr Leu Lys Leu Ser Gly Gly His Tyr Thr Cys
 165 170 175
 Val Phe Lys Thr Ile Tyr Arg Ser Lys Lys Asn Leu Thr Leu Pro Asp
 180 185 190
 Cys Phe Tyr Tyr Val Asp Thr Lys Leu Asp Ile Arg Lys Phe Asp Glu
 195 200 205
 Asn Tyr Ile Asn Val Glu Gln Asp Glu Ile Ala Thr Ala Arg His His
 210 215 220
 Gly Leu Lys
 225

<210> 9
 <211> 687
 <212> DNA
 <213> Unknown

<220>
 <223> Obtained from an environmental sample

<400> 9
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 gacaaattta agatcactgg ggatggaaca ggagaacctt acgaagggaac acagacttta 120
 catcttacag agaaggaagg caagcctctg acgttttctt tcgatgtatt gacaccagca 180
 ttctcagtatg gaaaccgtac attcaccaaa taccagaggca atataccaga ctttttcaag 240
 cagaccgttt ctggtggcgg gtatacctgg gagcgaaaaa tgacttatga agacgggggc 300
 ataagtaacg tccgaagcga catcagtgtg aaagggtgact ctttctacta taagattcac 360
 ttacttggcg agtttcctcc tcatgggtcca gtgatgcaga ggaagacagt aaaatgggag 420
 ccatccactg aagtaatgta tgttgacgac aagagtgcag gtgtgctgaa gggagatgtc 480
 aacatggctc tgttgcttaa agatggccgc catttgagag ttgactttaa cacttcttac 540
 atacccaaga agaaggtcga gaatatgcct gactaccatt ttatagacca ccgcattgag 600
 attctgggca acccagaaga caagccggtc aagctgtacg agtgtgtgtg agctcgctat 660
 tctctgtgc ctgagaagaa caagtca 687

<210> 10
 <211> 229
 <212> PRT
 <213> Unknown

<220>
 <223> Obtained from an environmental sample

<400> 10
 Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Asp Cys
 1 5 10 15
 Thr Val Asn Gly Asp Lys Phe Lys Ile Thr Gly Asp Gly Thr Gly Glu
 20 25 30
 Pro Tyr Glu Gly Thr Gln Thr Leu His Leu Thr Glu Lys Glu Gly Lys
 35 40 45
 Pro Leu Thr Phe Ser Phe Asp Val Leu Thr Pro Ala Phe Gln Tyr Gly
 50 55 60
 Asn Arg Thr Phe Thr Lys Tyr Pro Gly Asn Ile Pro Asp Phe Phe Lys
 65 70 75 80
 Gln Thr Val Ser Gly Gly Gly Tyr Thr Trp Glu Arg Lys Met Thr Tyr
 85 90 95
 Glu Asp Gly Gly Ile Ser Asn Val Arg Ser Asp Ile Ser Val Lys Gly
 100 105 110
 Asp Ser Phe Tyr Tyr Lys Ile His Phe Thr Gly Glu Phe Pro Pro His
 115 120 125

Val	Met	Tyr	Val	Asp	Asp	Lys	Ser	Gly	Gly	Glu	Leu	Lys	Gly	Asp	Val
145					150					155					160
Asn	Met	Ala	Leu	Leu	Leu	Lys	Asp	Gly	Arg	His	Leu	Arg	Val	Asp	Phe
				165					170					175	
Asn	Thr	Ser	Tyr	Ile	Pro	Lys	Lys	Lys	Val	Glu	Asn	Met	Pro	Asp	Tyr
			180					185					190		
His	Phe	Ile	Asp	His	Arg	Ile	Glu	Ile	Leu	Gly	Asn	Pro	Glu	Asp	Lys
		195					200					205			
Pro	Val	Lys	Leu	Tyr	Glu	Cys	Ala	Val	Ala	Arg	Tyr	Ser	Leu	Leu	Pro
	210					215					220				
Glu	Lys	Asn	Lys												
225															

<210> 13
 <211> 675
 <212> DNA
 <213> Unknown

<220>
 <223> Obtained from an environmental sample

<400> 13																
gtgaaggaag	taatgaagat	cagtctggag	atggactgca	ctgttaacgg	cgacaaattt											60
aagatcactg	gggatggaac	aggagaacct	tacgaaggaa	cacagacttt	acatcttaca											120
gagaaggaag	gcaagcctct	gacgttttct	ttcgatgtat	tgacaccagc	atttcagtat											180
ggcaaccgta	cattcaccaa	ataccaggc	aatataccag	actttttcaa	gcagaccgtt											240
tctgggtggcg	ggtatacctg	ggagcgaaaa	atgacttatg	aagacggggg	cataagtaac											300
gtccgaagcg	acatcagtg	gaaaggtgac	tctttctact	ataagattca	cttcactggc											360
gaatttcctt	ctcacgggtcc	agtgatgcag	aagaagacgg	taaaatggga	gccatccact											420
gaagtaatgt	atgtggacga	taagagtgat	ggtgtgctga	agggagatgt	caacatggct											480
ctgttgctta	aagatggccg	ccatttgcca	gtggacttca	acacttctta	catacccaag											540
aagaaggtcg	agaatatgcc	tgactaccat	tttatagacc	accgcattga	gattctgggc											600
aaccagatg	acaatccgg	caagctgtac	gagtgtgctg	tagctcgctg	ttctctgctg											660
cctgagaaga	acaag															675

<210> 14
 <211> 225
 <212> PRT
 <213> Unknown

<220>
 <223> Obtained from an environmental sample

<400> 14																
Met	Lys	Glu	Val	Met	Lys	Ile	Ser	Leu	Glu	Met	Asp	Cys	Thr	Val	Asn	
1				5					10					15		
Gly	Asp	Lys	Phe	Lys	Ile	Thr	Gly	Asp	Gly	Thr	Gly	Glu	Pro	Tyr	Glu	
			20					25					30			
Gly	Thr	Gln	Thr	Leu	His	Leu	Thr	Glu	Lys	Glu	Gly	Lys	Pro	Leu	Thr	
		35					40					45				
Phe	Ser	Phe	Asp	Val	Leu	Thr	Pro	Ala	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	
	50					55					60					
Phe	Thr	Lys	Tyr	Pro	Gly	Asn	Ile	Pro	Asp	Phe	Phe	Lys	Gln	Thr	Val	
65					70					75					80	
Ser	Gly	Gly	Gly	Tyr	Thr	Trp	Glu	Arg	Lys	Met	Thr	Tyr	Glu	Asp	Gly	
				85					90					95		
Gly	Ile	Ser	Asn	Val	Arg	Ser	Asp	Ile	Ser	Val	Lys	Gly	Asp	Ser	Phe	
			100					105					110			
Tyr	Tyr	Lys	Ile	His	Phe	Thr	Gly	Glu	Phe	Pro	Ser	His	Gly	Pro	Val	
		115					120					125				
Met	Gln	Lys	Lys	Thr	Val	Lys	Trp	Glu	Pro	Ser	Thr	Glu	Val	Met	Tyr	
	130					135					140					
Val	Asp	Asp	Lys	Ser	Asp	Gly	Val	Leu	Lys	Gly	Asp	Val	Asn	Met	Ala	
145					150					155					160	

Leu Leu Leu Lys Asp Gly Arg His Leu Arg Val Asp Phe Asn Thr Ser
 Tyr Ile Pro Lys Lys Lys Val Glu Asn Met Pro Asp Tyr His Phe Ile
 Asp His Arg Ile Glu Ile Leu Gly Asn Pro Asp Asp Asn Pro Val Lys
 Leu Tyr Glu Cys Ala Val Ala Arg Cys Ser Leu Leu Pro Glu Lys Asn
 Lys
 225

<210> 15
 <211> 693
 <212> DNA
 <213> Unknown

<220>
 <223> Obtained from an environmental sample

<400> 15
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 gacaaatttg tgatcactgg ggatggaaca ggcgaacctt acgacgggac acagatttta 120
 aatcttacag tgaagggagg caagcctctg acattttctt tcgatataatt gacaccagta 180
 tttatgtatg gcaacagagc attcaccaaa taccagagaga gtatcccaga ctttttcaag 240
 cagaccgttt ctggtggcgg gtatacttgg aaacgaaaga tgatttatga tcacgaggct 300
 gagggcgtga gtaccgttga cggggacatc agtgtgaatg gagactgttt catctataag 360
 attacgtttg acggcacatt tcgtgaagat ggtgcagtga tgcagaagat gacggaaaaa 420
 tgggaacat ccactgaagt gatgtacaag gacgataaaa atgatgatgt gctgaaggga 480
 gatgtcaacc atgctctttt gcttaaagat ggccgccatg tgcgagttga tttcaatacc 540
 tcttacaag ccaagtcaaa gatcgagaat atgcctggtt accattttgt agaccaccgc 600
 attgagataa tagggcgatc atcgcaagac acgaagggtca agctgttcga gaacgctgtc 660
 gctcgctgtt ctctgctgcc tgagaagaac cag 693

<210> 16
 <211> 231
 <212> PRT
 <213> Unknown

<220>
 <223> Obtained from an environmental sample

<400> 16
 Met Lys Gly Val Lys Glu Val Met Lys Ile Gln Val Lys Met Asn Ile
 Thr Val Asn Gly Asp Lys Phe Val Ile Thr Gly Asp Gly Thr Gly Glu
 Pro Tyr Asp Gly Thr Gln Ile Leu Asn Leu Thr Val Glu Gly Gly Lys
 Pro Leu Thr Phe Ser Phe Asp Ile Leu Thr Pro Val Phe Met Tyr Gly
 Asn Arg Ala Phe Thr Lys Tyr Pro Glu Ser Ile Pro Asp Phe Phe Lys
 Gln Thr Val Ser Gly Gly Tyr Thr Trp Lys Arg Lys Met Ile Tyr
 Asp His Glu Ala Glu Gly Val Ser Thr Val Asp Gly Asp Ile Ser Val
 Asn Gly Asp Cys Phe Ile Tyr Lys Ile Thr Phe Asp Gly Thr Phe Arg
 Glu Asp Gly Ala Val Met Gln Lys Met Thr Glu Lys Trp Glu Pro Ser
 Thr Glu Val Met Tyr Lys Asp Asp Lys Asn Asp Asp Val Leu Lys Gly
 Asp Val Asn His Ala Leu Leu Leu Lys Asp Gly Arg His Val Arg Val

Asp Phe Asn Thr Ser Tyr Lys Ala Lys Ser Lys Ile Glu Asn Met Pro
 180 185 190
 Gly Tyr His Phe Val Asp His Arg Ile Glu Ile Ile Gly Arg Ser Ser
 195 200 205
 Gln Asp Thr Lys Val Lys Leu Phe Glu Asn Ala Val Ala Arg Cys Ser
 210 215 220
 Leu Leu Pro Glu Lys Asn Gln
 225 230

<210> 17
 <211> 687
 <212> DNA
 <213> Unknown

<220>
 <223> Obtained from an environmental sample

<400> 17
 atgaagggg tgaaggaagt aatgaagatc agtctggaga tggactgcac tggttaacggc 60
 gacaaattta agatcactgg ggatggaaca ggagaacctt acgaaggaac acagacttta 120
 catcttacag agaaggaagg caagcctctg acgttttctt tcgatgtatt gacaccagca 180
 ttccagtatg gaaaccgtac attcaccaaa taccaggca atataccaga ctttttcaag 240
 cagaccgttt ctggtggcgg gtatacctgg gagcgaaaaa tgacttatga agacgggggc 300
 ataagtaacg tccgaagcga catcagtgtg aaaggtgact ctttctacta taagattcac 360
 ttcactggcg agtttcctcc tcatgggtcca gtgatgcaga ggaagacagt aaaatgggag 420
 ccatccactg aagtaatgta tgttgacgac aagagtgcag gtgtgctgaa gggagatgtc 480
 aacatggctc tgttgcttaa agatggccgc catttgagag ttgactttaa cacttcttac 540
 atacccaaga agaaggtcga gaatatgcct gactaccatt ttatagacca ccgcattgag 600
 attctgggca acccagaaga caagccggtc aagctgtacg agtgtgctgt agctcgctat 660
 tctctgctgc ctgagaagaa caagtaa 687

<210> 18
 <211> 228
 <212> PRT
 <213> Unknown

<220>
 <223> Obtained from an environmental sample

<400> 18
 Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Asp Cys
 1 5 10 15
 Thr Val Asn Gly Asp Lys Phe Lys Ile Thr Gly Asp Gly Thr Gly Glu
 20 25 30
 Pro Tyr Glu Gly Thr Gln Thr Leu His Leu Thr Glu Lys Glu Gly Lys
 35 40 45
 Pro Leu Thr Phe Ser Phe Asp Val Leu Thr Pro Ala Phe Gln Tyr Gly
 50 55 60
 Asn Arg Thr Phe Thr Lys Tyr Pro Gly Asn Ile Pro Asp Phe Phe Lys
 65 70 75 80
 Gln Thr Val Ser Gly Gly Tyr Thr Trp Glu Arg Lys Met Thr Tyr
 85 90 95
 Glu Asp Gly Gly Ile Ser Asn Val Arg Ser Asp Ile Ser Val Lys Gly
 100 105 110
 Asp Ser Phe Tyr Tyr Lys Ile His Phe Thr Gly Glu Phe Pro Pro His
 115 120 125
 Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro Ser Thr Glu
 130 135 140
 Val Met Tyr Val Asp Asp Lys Ser Asp Gly Val Leu Lys Gly Asp Val
 145 150 155 160
 Asn Met Ala Leu Leu Lys Asp Gly Arg His Leu Arg Val Asp Phe
 165 170 175
 Asn Thr Ser Tyr Ile Pro Lys Lys Lys Val Glu Asn Met Pro Asp Tyr
 180 185 190

His Phe Ile Asp His Arg Ile Glu Ile Leu Gly Asn Pro Glu Asp Lys
 195 200 205
 Pro Val Lys Leu Tyr Glu Cys Ala Val Ala Arg Tyr Ser Leu Leu Pro
 210 215 220
 Glu Lys Asn Lys
 225

<210> 19
 <211> 762
 <212> DNA
 <213> Unknown

<220>
 <223> Obtained from an environmental sample

<400> 19
 atgaaggggg tgaaggaagt aatgaagatc agtctggaga tggactgcac tgtaacggc 60
 gacaaattta agatcactgg ggatggaaca ggagaacctt acgaaggaac acagacttta 120
 catcttacag agaaggaagg caagcctctg acgttttctt tcgatgtatt gacaccagca 180
 ttccagtatg gaaaccgtac attcaccaaa taccagaggca atataccaga ctttttcaag 240
 cagaccgttt ctggtggcgg gtatacctgg gagcgaaaaa tgacttatga agacgggggc 300
 ataagtaacg tccgaagcga catcagtgtg aaagggtgact ctttctacta taagattcac 360
 ttacttggcg agtttcctcc tcatggtcca gtgatgcaga ggaagacagt aaaatgggag 420
 ccatccactg aagtaatgta tgttgacgac aagagtgcag gtgtgctgaa gggagatgtc 480
 aacatggctc tgttgcttaa agatggccgc catttgagag ttgactttaa cacttcttac 540
 atacccaaga agaaggtcga gaatatgcct gactaccatt ttatagacca ccgcattgag 600
 attctgggca acccagaaga caagccggtc aagctgtacg agtgtgctgt agctcgctat 660
 tctctgctgc ctgagaagaa caagtcaaag ggcaattcga agcttgaagg taagcctatc 720
 cctaaccctc tcctcgggtc cgattctacg cgtaccggtt aa 762

<210> 20
 <211> 253
 <212> PRT
 <213> Unknown

<220>
 <223> Obtained from an environmental sample

<400> 20
 Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Asp Cys
 1 5 10 15
 Thr Val Asn Gly Asp Lys Phe Lys Ile Thr Gly Asp Gly Thr Gly Glu
 20 25 30
 Pro Tyr Glu Gly Thr Gln Thr Leu Thr Glu Lys Glu Gly Lys
 35 40 45
 Pro Leu Thr Phe Ser Phe Asp Val Leu Thr Pro Ala Phe Gln Tyr Gly
 50 55 60
 Asn Arg Thr Phe Thr Lys Tyr Pro Gly Asn Ile Pro Asp Phe Phe Lys
 65 70 75 80
 Gln Thr Val Ser Gly Gly Tyr Thr Trp Glu Arg Lys Met Thr Tyr
 85 90 95
 Glu Asp Gly Gly Ile Ser Asn Val Arg Ser Asp Ile Ser Val Lys Gly
 100 105 110
 Asp Ser Phe Tyr Tyr Lys Ile His Phe Thr Gly Glu Phe Pro Pro His
 115 120 125
 Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro Ser Thr Glu
 130 135 140
 Val Met Tyr Val Asp Asp Lys Ser Asp Gly Val Leu Lys Gly Asp Val
 145 150 155 160
 Asn Met Ala Leu Leu Leu Lys Asp Gly Arg His Leu Arg Val Asp Phe
 165 170 175
 Asn Thr Ser Tyr Ile Pro Lys Lys Lys Val Glu Asn Met Pro Asp Tyr
 180 185 190
 His Phe Ile Asp His Arg Ile Glu Ile Leu Gly Asn Pro Glu Asp Lys

Pro	Val	Lys	Leu	Tyr	Glu	Cys	Ala	Val	Ala	Arg	Tyr	Ser	Leu	Leu	Pro
	210					215					220				
Glu	Lys	Asn	Lys	Ser	Lys	Gly	Asn	Ser	Lys	Leu	Glu	Gly	Lys	Pro	Ile
225					230					235					240
Pro	Asn	Pro	Leu	Leu	Gly	Leu	Asp	Ser	Thr	Arg	Thr	Gly			
				245					250						

<210> 21
 <211> 786
 <212> DNA
 <213> Unknown

<220>
 <223> Obtained from an environmental sample

<400> 21

gtgatggcga	tttccgctct	aaagaacgtc	atcatcatcg	taatcatata	ctcctgcagc	60
actagtgtcg	attcgtcgaa	ctcttactct	ggatcctcct	tcgcgaatgg	gattgcagag	120
gaaatgatga	ctgacctgca	tttagagggg	gctgttaacg	ggcaccactt	tacaattaaa	180
ggcgaaggag	gaggctaccc	ttacgagggg	gtgcagttta	tgagcctcga	ggtagtcaat	240
ggtgccccct	ttccgttctc	ttttgataat	ttgacaccgg	cattcatgta	tggcaacaga	300
gtgttcacca	agtatccaaa	agagatacca	cactatttca	agcagacggt	tcctgaaggg	360
tatcactggg	aaagaagcat	ttcctttcaa	gatcaggcct	cgtgcacggt	aaccagccac	420
ataaggatga	aagaggaaga	ggagcggcat	tttcttctta	acgtcaaatt	ttactgtgtg	480
aattttcccc	ccaatgggtc	agtcattgcag	aggaggatac	ggggatggga	gccatccact	540
gagaacattt	atccgcgtga	tgaatttcta	gagggccatg	atgacatgac	tcctcggtt	600
gaaggaggtg	gctattaccg	agctgaattc	agaagttctt	acaaaggaaa	gcactcaatc	660
aacatgccag	actttcactt	catagaccac	cgcattgaga	ttatggagca	tgacgaagac	720
tacaaccatg	ttaagctgcg	tgaagtagcc	catgctcggt	actctccgct	gccttctgtg	780
cactaa						786

<210> 22
 <211> 261
 <212> PRT
 <213> Unknown

<220>
 <223> Obtained from an environmental sample

<400> 22

Val	Met	Ala	Ile	Ser	Ala	Leu	Lys	Asn	Val	Ile	Ile	Ile	Val	Ile	Ile
1				5				10					15		
Tyr	Ser	Cys	Ser	Thr	Ser	Ala	Asp	Ser	Asn	Ser	Tyr	Ser	Gly	Ser	
			20					25				30			
Ser	Phe	Ala	Asn	Gly	Ile	Ala	Glu	Glu	Met	Met	Thr	Asp	Leu	His	Leu
		35					40				45				
Glu	Gly	Ala	Val	Asn	Gly	His	His	Phe	Thr	Ile	Lys	Gly	Glu	Gly	Gly
	50					55					60				
Gly	Tyr	Pro	Tyr	Glu	Gly	Val	Gln	Phe	Met	Ser	Leu	Glu	Val	Val	Asn
65					70				75						80
Gly	Ala	Pro	Leu	Pro	Phe	Ser	Phe	Asp	Ile	Leu	Thr	Pro	Ala	Phe	Met
				85					90					95	
Tyr	Gly	Asn	Arg	Val	Phe	Thr	Lys	Tyr	Pro	Lys	Glu	Ile	Pro	His	Tyr
			100					105					110		
Phe	Lys	Gln	Thr	Phe	Pro	Glu	Gly	Tyr	His	Trp	Glu	Arg	Ser	Ile	Pro
		115					120					125			
Phe	Gln	Asp	Gln	Ala	Ser	Cys	Thr	Val	Thr	Ser	His	Ile	Arg	Met	Lys
		130				135					140				
Glu	Glu	Glu	Glu	Arg	His	Phe	Leu	Leu	Asn	Val	Lys	Phe	Tyr	Cys	Val
145					150				155						160
Asn	Phe	Pro	Pro	Asn	Gly	Pro	Val	Met	Gln	Arg	Arg	Ile	Arg	Gly	Trp
				165					170					175	
Glu	Pro	Ser	Thr	Glu	Asn	Ile	Tyr	Pro	Arg	Asp	Glu	Phe	Leu	Glu	Gly

145	Asn	Phe	Pro	Pro	Asn	Gly	Pro	Val	Met	Gln	Arg	Arg	Ile	Arg	Gly	Trp
					165					170					175	
	Glu	Pro	Ser	Thr	Glu	Asn	Ile	Tyr	Pro	Arg	Asp	Glu	Phe	Leu	Glu	Gly
				180					185					190		
	His	Asp	Asp	Met	Thr	Leu	Arg	Val	Glu	Gly	Gly	Gly	Tyr	Tyr	Arg	Ala
			195					200					205			
	Glu	Phe	Arg	Ser	Ser	Tyr	Lys	Gly	Lys	His	Ser	Ile	Asn	Met	Pro	Asp
							215					220				
	Phe	His	Phe	Ile	Asp	His	Arg	Ile	Glu	Ile	Met	Glu	His	Asp	Glu	Asp
	225					230					235				240	
	Tyr	Asn	His	Val	Lys	Leu	Arg	Glu	Val	Ala	His	Ala	Arg	Tyr	Ser	Pro
					245					250					255	
	Leu	Pro	Ser	Val	His											
					260											

<210> 25
 <211> 783
 <212> DNA
 <213> Unknown

<220>
 <223> Obtained from an environmental sample

<400> 25	
atggcgattt cgcgtctaaa gaacgtcatc atcatcgtaa tcatatactc ccgcagcact	60
agtgtctgatt cgtcgaactc ttactctgga tcctccttcg cgaatgggat tgcagaggaa	120
atgatgactg acctgcattt agaggggtgct gttaacgggc accactttac aattaaaggc	180
gaaggaggag gctaccctta cgagggagtg cagtttatga gcctcgaggt agtcaatggt	240
gccccctctt cgttctcttt tgatatcttg acaccggcat tcatgtatgg caacagagtg	300
ttcaccaagt atccaaaaga gataccagac tatttcaagc agacgtttcc tgaagggtat	360
cactgggaaa gaagcatttc ctttcaagat caggcctcgt gcacggtaac cagccacata	420
aggatgaaaag aggaagagga gcggcatttt ctctttaacg tcaaatttta ctgtgtgaat	480
tttcccccca atggtccagt catgcagagg aggatacggg gatgggagcc atccactgag	540
aacattttat cgcgtgatga atttctagag ggccatgatg acatgactct tcgggttgaa	600
ggaggtggct attaccgagc tgaattcaga agttcttaca aaggaaagca ctcaatcaac	660
atgccagact ttcacttcat agaccaccgc attgagatta tggagcatga cgaagactac	720
aaccatgtta agctgcgtga agtagcctat gctcgttact ctccgctgcc ttctgtgcac	780
taa	783

<210> 26
 <211> 260
 <212> PRT
 <213> Unknown

<220>
 <223> Obtained from an environmental sample

<400> 26	
Met Ala Ile Ser Ala Leu Lys Asn Val Ile Ile Ile Val Ile Ile Tyr	
1 5 10 15	
Ser Arg Ser Thr Ser Ala Asp Ser Ser Asn Ser Tyr Ser Gly Ser Ser	
20 25 30	
Phe Ala Asn Gly Ile Ala Glu Glu Met Met Thr Asp Leu His Leu Glu	
35 40 45	
Gly Ala Val Asn Gly His His Phe Thr Ile Lys Gly Glu Gly Gly Gly	
50 55 60	
Tyr Pro Tyr Glu Gly Val Gln Phe Met Ser Leu Glu Val Val Asn Gly	
65 70 75 80	
Ala Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Ala Phe Met Tyr	
85 90 95	
Gly Asn Arg Val Phe Thr Lys Tyr Pro Lys Glu Ile Pro Asp Tyr Phe	
100 105 110	
Lys Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Ser Ile Pro Phe	

Gln	Asp	115	Gln	Ala	Ser	Cys	Thr	120	Val	Thr	Ser	His	Ile	125	Arg	Met	Lys	Glu	
130	Glu	Glu	Glu	Arg	His	Phe	Leu	135	Leu	Asn	Val	Lys	140	Phe	Tyr	Cys	Val	Asn	
145	Phe	Pro	Pro	Asn	Gly	150	Pro	Val	Met	Gln	Arg	155	Arg	Ile	Arg	Gly	Trp	160	Glu
165	Pro	Ser	Thr	Glu	165	Asn	Ile	Tyr	Pro	Arg	170	Asp	Glu	Phe	Leu	Glu	Gly	175	His
180	Asp	Asp	Met	Thr	Leu	Arg	Val	Glu	185	Gly	Gly	Gly	Tyr	190	Tyr	Arg	Ala	Glu	195
200	Phe	Arg	Ser	Ser	Tyr	Lys	Gly	205	Lys	His	Ser	Ile	Asn	210	Met	Pro	Asp	Phe	215
220	His	Phe	Ile	Asp	His	Arg	Ile	Glu	225	Ile	Met	Glu	230	His	Asp	Glu	Asp	Tyr	235
240	Asn	His	Val	Lys	Leu	Arg	Glu	Val	Ala	Tyr	245	Ala	Arg	Tyr	Ser	Pro	Leu	250	255
260	Pro	Ser	Val	His															

<210> 27
 <211> 684
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 27	atgagtcatt	ccaagagtgt	gatcaaggac	gaaatgttca	tcaagattca	tctggaaggc	60
	acttttaacg	gccacaaatt	tgagatcgaa	ggggagggaa	acggaaaacc	ttacgcagga	120
	acaaattttg	taaaacttgt	agtgacgaaa	ggcgggcttc	tgccgtttgg	ttggcatata	180
	ttgtcaccac	aattacagta	tggaacaag	tcattcgtca	gctacccagc	cgatatacca	240
	gactatatca	agctgtcctt	tcctgagggc	tttacctggg	agcgaataat	gacttttgag	300
	gacgggggcg	tatgttgcac	cacaagcgac	atcagtatga	aaagtaacaa	ctgtttcttc	360
	tatgacatta	agttcactgg	catgaacttt	cctcctaata	gtccagtggg	gcagaaaaag	420
	acaacaggat	gggagccatc	cactgaacga	ttgtatcttc	gcgacgggtg	gctgacggga	480
	gatatccaca	agactctgaa	acttagcggg	ggcggccatt	acacatgtgt	ctttaaact	540
	atttacagat	ccaagaagaa	cctcacgctt	ccggattgct	tctattatgt	agacaccaa	600
	cttgataattc	ggaagttcga	cgaaaattac	atcaacgtcg	agcaggacga	gattgctaca	660
	gctcgcctac	atgggctgaa	gtag				684

<210> 28
 <211> 227
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 28	Met	Ser	His	Ser	Lys	Ser	Val	Ile	Lys	Asp	Glu	Met	Phe	Ile	Lys	Ile
1	His	Leu	Glu	Gly	Thr	Phe	Asn	Gly	His	Lys	Phe	Glu	Ile	Glu	Gly	Glu
20	Gly	Asn	Gly	Lys	Pro	Tyr	Ala	Gly	Thr	Asn	Phe	Val	Lys	Leu	Val	Val
35	Thr	Lys	Gly	Gly	Pro	Leu	Pro	Phe	Gly	Trp	His	Ile	Leu	Ser	Pro	Gln
50	Leu	Gln	Tyr	Gly	Asn	Lys	Ser	Phe	Val	Ser	Tyr	Pro	Ala	Asp	Ile	Pro
65	Asp	Tyr	Ile	Lys	Leu	Ser	Phe	Pro	Glu	Gly	Phe	Thr	Trp	Glu	Arg	Ile
85	Met	Thr	Phe	Glu	Asp	Gly	Gly	Val	Cys	Cys	Ile	Thr	Ser	Asp	Ile	Ser
95																

Asp	Gly	Gly	Ile	Ser	Asn	Val	Arg	Ser	Asp	Ile	Ser	Val	Lys	Gly	Asp
			100					105					110		
Ser	Phe	Tyr	Tyr	Lys	Ile	His	Phe	Thr	Gly	Glu	Phe	Pro	Pro	His	Gly
		115					120					125			
Pro	Val	Met	Gln	Arg	Lys	Thr	Val	Lys	Trp	Glu	Pro	Ser	Thr	Glu	Arg
		130				135					140				
Leu	Tyr	Leu	Arg	Asp	Gly	Val	Leu	Thr	Gly	Asp	Val	Asn	Met	Ala	Leu
		145			150					155					160
Leu	Leu	Lys	Asp	Gly	Gly	His	Tyr	Thr	Cys	Val	Phe	Lys	Thr	Ile	Tyr
			165						170					175	
Arg	Ser	Lys	Lys	Lys	Val	Glu	Asn	Met	Pro	Asp	Tyr	His	Phe	Ile	Asp
		180						185					190		
His	Arg	Ile	Glu	Ile	Met	Glu	His	Asp	Glu	Asp	Tyr	Asn	His	Val	Lys
		195					200					205			
Leu	Arg	Glu	Cys	Ala	Val	Ala	Arg	Tyr	Ser	Leu	Leu	Pro	Glu	Lys	Asn
		210				215					220				
Lys	Gly	Lys	Pro	Ile	Pro	Asn	Pro	Leu	Leu	Gly	Leu	Asp	Ser	Thr	Arg
		225			230					235					240
Thr	Gly														

<210> 35
 <211> 741
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetically generated

<400> 35																
atgagtcatt	ccaagagtgt	gatcaaggac	gaaatgttca	tcaagattca	tctggaaggc											60
acttttaacg	gccacaaatt	tgagatcgaa	ggggagggaa	acggaaaacc	ttacgcagga											120
gtacagttta	tgtctcttga	agtgggtgaat	ggcgcgctc	tgccgtttgg	ttggcatata											180
ttgtcaccag	catttatgta	tggaaccgt	gtattcacca	aatacccaaa	agagatacca											240
gactattttca	agcagacctt	tcctgaaggc	tatcactggg	agcgaataat	gacttttgag											300
gacggggggcg	tatgttgcac	cacaagcgac	atcagtggtga	aagggtgactc	tttcttctat											360
gacattaagt	tcactggcat	gaactttcct	cctcatggtc	cagtgatgca	gagaaagaca											420
gtaaaatggg	agccatccac	tgaacgattg	tatcttcgcg	acgggtgtgct	gacggggacat											480
gacgacatga	ctctgcgggg	tgaagggtggc	ggccattaca	catgtgtctt	taaaactatt											540
tacagatcca	agaagaaggt	cgagaatatg	cctgactacc	attttataga	ccaccgcatt											600
gagatttctgg	gcaaccacga	agacaagccg	gtcaagctgt	acgagattgc	tacagctcgc											660
catcatgggc	tgaagggtaa	gcctatccct	aaccctctcc	tcggactcga	ttctacgcgt											720
accgggttag	ctcgaggggg	g														741

<210> 36
 <211> 247
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetically generated

<400> 36																
Met	Ser	His	Ser	Lys	Ser	Val	Ile	Lys	Asp	Glu	Met	Phe	Ile	Lys	Ile	
1				5				10						15		
His	Leu	Glu	Gly	Thr	Phe	Asn	Gly	His	Lys	Phe	Glu	Ile	Glu	Gly	Glu	
			20					25					30			
Gly	Asn	Gly	Lys	Pro	Tyr	Ala	Gly	Val	Gln	Phe	Met	Ser	Leu	Glu	Val	
		35					40				45					
Val	Asn	Gly	Ala	Pro	Leu	Pro	Phe	Gly	Trp	His	Ile	Leu	Ser	Pro	Ala	
	50					55				60						
Phe	Met	Tyr	Gly	Asn	Arg	Val	Phe	Thr	Lys	Tyr	Pro	Lys	Glu	Ile	Pro	
	65			70					75					80		
Asp	Tyr	Phe	Lys	Gln	Thr	Phe	Pro	Glu	Gly	Tyr	His	Trp	Glu	Arg	Ile	

Met Thr Phe Glu Asp Gly Gly Val Cys Cys Ile Thr Ser Asp Ile Ser
 100 105 110
 Val Lys Gly Asp Ser Phe Phe Tyr Asp Ile Lys Phe Thr Gly Met Asn
 115 120 125
 Phe Pro Pro His Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu
 130 135 140
 Pro Ser Thr Glu Arg Leu Tyr Leu Arg Asp Gly Val Leu Thr Gly His
 145 150 155 160
 Asp Asp Met Thr Leu Arg Val Glu Gly Gly Gly His Tyr Thr Cys Val
 165 170 175
 Phe Lys Thr Ile Tyr Arg Ser Lys Lys Lys Val Glu Asn Met Pro Asp
 180 185 190
 Tyr His Phe Ile Asp His Arg Ile Glu Ile Leu Gly Asn Pro Glu Asp
 195 200 205
 Lys Pro Val Lys Leu Tyr Glu Ile Ala Thr Ala Arg His His Gly Leu
 210 215 220
 Lys Gly Lys Pro Ile Pro Asn Pro Leu Leu Gly Leu Asp Ser Thr Arg
 225 230 235 240
 Thr Gly Ser Ser Arg Arg
 245

<210> 41
 <211> 726
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 41
 atgaagggg tgaaggagt aatgaagatc agtctggaga tggactgcac tgttaacggc 60
 gacaaatttg agatcgaagg ggagggaaac ggaaaacctt acgcaggagt acagtttatg 120
 tctcttgaag tggatgaatgg cgcgcctctg ccgttttctt tcgatataatt gacaccacaa 180
 ttacagtatg gaaacaagtc attcgtcagc tacccaaaag agataccaga ctatttcaag 240
 cagaccttc ctgaaggcta tcaactgggag cgaagcattc cttttcaaga ccaggcctca 300
 tgtaccgtca caagcgacat cagtatgaaa agtaacaact gtttctacta taagattcac 360
 ttcactggcg agtttctccc tcatgggtcca gtgatgcaga gaaagacagt aaaatgggag 420
 ccatccactg aagtaatgta tgttgacgac aagagtgcag gtgtgctgaa gggacatgac 480
 gacatgactc tgcgggttga aggtggccgc catttgagag ttgactttaa cacttcttac 540
 ataccaagc actcgatcaa catgccggat ttccatttta tagaccaccg cattgatatt 600
 cggaagtctg acgaaaatta catcaacgct gagcaggacg agattgctac agctcgccat 660
 catgggctga agggtaagcc tatccctaac cctctcctcg gactcgattc tacgcgtacc 720
 ggtag 726

<210> 42
 <211> 241
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 42
 Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Asp Cys
 1 5 10 15
 Thr Val Asn Gly Asp Lys Phe Glu Ile Glu Gly Glu Gly Asn Gly Lys
 20 25 30
 Pro Tyr Ala Gly Val Gln Phe Met Ser Leu Glu Val Val Asn Gly Ala
 35 40 45
 Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Gln Leu Gln Tyr Gly
 50 55 60
 Asn Lys Ser Phe Val Ser Tyr Pro Lys Glu Ile Pro Asp Tyr Phe Lys
 65 70 75 80
 Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Ser Ile Pro Phe Gln

Asp	Gln	Ala	Ser	85	Cys	Thr	Val	Thr	Ser	90	Asp	Ile	Ser	Met	Lys	95	Ser	Asn
Asn	Cys	Phe	100	Tyr	Tyr	Lys	Ile	His	105	Phe	Thr	Gly	Glu	Phe	110	Pro	Pro	His
Gly	Pro	Val	115	Met	Gln	Arg	Lys	120	Thr	Val	Lys	Trp	Glu	Pro	Ser	Thr	Glu	
Val	130	Met	Tyr	Val	Asp	Asp	Lys	135	Ser	Asp	Gly	Val	140	Leu	Lys	Gly	His	Asp
145	Met	Thr	Leu	Arg	Val	Glu	Gly	Gly	Arg	His	Leu	Arg	Val	Asp	Phe			
Asp	Met	Thr	Leu	Arg	Val	Glu	Gly	Gly	Arg	His	Leu	Arg	Val	Asp	Phe			
Asn	Thr	Ser	Tyr	Ile	Pro	Lys	His	Ser	170	Ile	Asn	Met	Pro	Asp	Phe	His		
Phe	Ile	Asp	His	Arg	Ile	Asp	Ile	Arg	Lys	Phe	Asp	Glu	Asn	Tyr	Ile			
Asn	Val	Glu	Gln	Asp	Glu	Ile	Ala	Thr	Ala	Arg	His	His	Gly	Leu	Lys			
Gly	210	Lys	Pro	Ile	Pro	Asn	Pro	Leu	Leu	Gly	Leu	Asp	Ser	Thr	Arg	Thr		
225					230					235						240		
Gly																		

<210> 43
 <211> 720
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 43																		
atgaagggg	tgaaggaagt	aatgaagatc	agtctggaga	tggactgcac	tgttaacggc		60											
gacaaattta	cgatcaaagg	ggaaggagga	ggataccctt	acgaaggaac	aaattttgta		120											
aaacttgtag	tgacgaaagg	cgggcctctg	acgttttctt	tcgatgtatt	gacaccagca		180											
tttatgtatg	gaaaccgtgt	attcaccaaa	tacccaaaag	agataccaga	ctatttcaag		240											
cagacctttc	ctgaaggcta	tcactgggag	cgaagcattc	cttttcaaga	ccaggcctca		300											
tgtaccgtca	caagcgacat	cagtatgaaa	agtaacaact	gtttcttcta	tgacattaag		360											
ttcactggca	tgaactttcc	tcctcatggt	ccagtgatgc	agagaaagac	agtaaaatgg		420											
gagccatcca	ctgaaaacat	ttatcctcgc	gacgaatttc	tggagggaga	tgtcaacatg		480											
gcctctgttg	ttaaagatgg	ccgccatttg	agagttgact	ttaacacttc	ttacataccc		540											
aagcactcga	tcaacatgcc	ggatttccat	tttatagacc	accgcattga	tattcgggaag		600											
ttcgacgaaa	attacatcaa	cgtcgagcag	gacgagattg	ctacagctcg	ccatcatggg		660											
ctgaagggta	agcctatccc	taaccctctc	ctcggactcg	attctacgcg	taccggttag		720											

<210> 44
 <211> 239
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 44																		
Met	Lys	Gly	Val	Lys	Glu	Val	Met	Lys	Ile	Ser	Leu	Glu	Met	Asp	Cys			
1				5				10					15					
Thr	Val	Asn	Gly	Asp	Lys	Phe	Thr	Ile	Lys	Gly	Glu	Gly	Gly	Gly	Tyr			
		20					25					30						
Pro	Tyr	Glu	Gly	Thr	Asn	Phe	Val	Lys	Leu	Val	Val	Thr	Lys	Gly	Gly			
	35				40					45								
Pro	Leu	Thr	Phe	Ser	Phe	Asp	Val	Leu	Thr	Pro	Ala	Phe	Met	Tyr	Gly			
	50				55					60								
Asn	Arg	Val	Phe	Thr	Lys	Tyr	Pro	Lys	Glu	Ile	Pro	Asp	Tyr	Phe	Lys			
65				70				75						80				
Gln	Thr	Phe	Pro	Glu	Gly	Tyr	His	Trp	Glu	Arg	Ser	Ile	Pro	Phe	Gln			

Asp	Gln	Ala	Ser	85	Cys	Thr	Val	Thr	Ser	90	Asp	Ile	Ser	Met	Lys	95	Ser	Asn
Asn	Cys	Phe	100	Phe	Tyr	Asp	Ile	Lys	105	Phe	Thr	Gly	Met	Asn	110	Phe	Pro	Pro
His	Gly	115	Pro	Val	Met	Gln	Arg	Lys	120	Thr	Val	Lys	Trp	125	Glu	Pro	Ser	Thr
130	Glu	Asn	Ile	Tyr	Pro	Arg	135	Asp	Glu	Phe	Leu	Glu	140	Gly	Asp	Val	Asn	Met
145	Ala	Leu	Leu	Leu	Lys	150	Asp	Gly	Arg	His	Leu	Arg	155	Val	Asp	Phe	Asn	Thr
					165						170						175	
Ser	Tyr	Ile	Pro	Lys	His	Ser	Ile	Asn	180	Met	Pro	Asp	Phe	His	190	Phe	Ile	
Asp	His	Arg	Ile	Asp	Ile	Arg	Lys	185	Phe	Asp	Glu	Asn	Tyr	Ile	Asn	Val		
Glu	Gln	Asp	Glu	Ile	Ala	Thr	Ala	Arg	His	His	Gly	Leu	Lys	Gly	Lys			
210	Pro	Ile	Pro	Asn	Pro	Leu	215	Leu	Gly	Leu	Asp	Ser	Thr	Arg	Thr	Gly		
225						230					235							

<210> 45
 <211> 738
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 45	atgagtcatt	ccaagagtgt	gatcaaggac	gaaatgttca	tcaagattca	tctggaaggc	60
	acttttaacg	gccacaaatt	tgagatcgaa	ggggagggaa	acggaaaacc	ttacgcagga	120
	acacagactt	tacatcttac	agagaaggaa	ggcaagcctc	tgccgttttc	tttcgatata	180
	ttgacaccac	aattacagta	tggaaacaag	tcattcgtca	gctacccagc	cgatatacca	240
	gactatatca	agctgtcctt	tcctgagggc	tttacctggg	agcgaagcat	tccttttcaa	300
	gaccaggcct	catgtaccgt	cacaagcgac	atcagtatga	aaagtaacaa	ctgtttctac	360
	tataagattc	acttcactgg	cgagtcttct	cctcatggtc	cagtgatgca	gagaaagaca	420
	gtaaaatggg	agccatccac	tgaagtaatg	tatgttgacg	acaagagtga	cgggtgtgctg	480
	aaggggagatg	tcaacatggc	tctgttgctt	aaagatggcc	gccatttgag	agttgacttt	540
	aacactttctt	acatacccaa	gaagaaggct	gagaatatgc	ctgactacca	ttttatagac	600
	caccgcattg	agattctggg	caaccagaa	gacaagccgg	tcaagctgta	cgagattgct	660
	acagctcgcc	atcatgggct	gaagggttaag	cctatcccta	accctctcct	cggactcgat	720
	tctacgcgta	ccgggttag					738

<210> 46
 <211> 245
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 46	Met	Ser	His	Ser	Lys	Ser	Val	Ile	Lys	Asp	Glu	Met	Phe	Ile	Lys	Ile
1	His	Leu	Glu	Gly	Thr	Phe	Asn	Gly	His	25	Lys	Phe	Glu	Ile	Glu	Gly
	Gly	Asn	Gly	Lys	Pro	Tyr	Ala	Gly	Thr	Gln	Thr	Leu	His	Leu	Thr	Glu
	Lys	Glu	Gly	Lys	Pro	Leu	Pro	Phe	Ser	Phe	Asp	Ile	Leu	Thr	Pro	Gln
	Leu	Gln	Tyr	Gly	Asn	Lys	Ser	Phe	Val	Ser	Tyr	Pro	Ala	Asp	Ile	Pro
65	Asp	Tyr	Ile	Lys	Leu	Ser	Phe	Pro	Glu	Gly	Phe	Thr	Trp	Glu	Arg	Ser
					85					90					95	

Ile	Pro	Phe	Gln	Asp	Gln	Ala	Ser	Cys	Thr	Val	Thr	Ser	Asp	Ile	Ser
			100					105					110		
Met	Lys	Ser	Asn	Asn	Cys	Phe	Tyr	Tyr	Lys	Ile	His	Phe	Thr	Gly	Glu
		115					120					125			
Phe	Pro	Pro	His	Gly	Pro	Val	Met	Gln	Arg	Lys	Thr	Val	Lys	Trp	Glu
		130				135					140				
Pro	Ser	Thr	Glu	Val	Met	Tyr	Val	Asp	Asp	Lys	Ser	Asp	Gly	Val	Leu
		145			150					155					160
Lys	Gly	Asp	Val	Asn	Met	Ala	Leu	Leu	Leu	Lys	Asp	Gly	Arg	His	Leu
				165				170						175	
Arg	Val	Asp	Phe	Asn	Thr	Ser	Tyr	Ile	Pro	Lys	Lys	Lys	Val	Glu	Asn
			180					185					190		
Met	Pro	Asp	Tyr	His	Phe	Ile	Asp	His	Arg	Ile	Glu	Ile	Leu	Gly	Asn
		195					200					205			
Pro	Glu	Asp	Lys	Pro	Val	Lys	Leu	Tyr	Glu	Ile	Ala	Thr	Ala	Arg	His
		210				215					220				
His	Gly	Leu	Lys	Gly	Lys	Pro	Ile	Pro	Asn	Pro	Leu	Leu	Gly	Leu	Asp
		225			230				235						240
Ser	Thr	Arg	Thr	Gly											
				245											

<210> 47
 <211> 603
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 47	
atggcgcgcc ttctgcccgtt ttcttttcgat atattgacac cagcatttat gtatggaaac	60
cgtgtattca ccaaataccc aaaagagata ccagactatt tcaagcagac ctttcctgaa	120
ggctatcact gggagcgaaa aatgacttat gaggacgggg gcataagtaa cgtccgaagc	180
cacatcagga tgaaagagga agaggagcgg catttcttct atgacattaa gttcactggc	240
atgaactttc ctccatcatgg tccagtgatg cagagaaaaga cagtaaaatg ggagccatcc	300
actgaagtaa tgtatgttga cgacaagagt gacgggtgtgc tgaagggaca tgacgacatg	360
actctgcggg ttgaagggtgg ccgccatttg agagttgact ttaacacttc ttacataccc	420
aagaagaacc tcacgccttc ggattgcttc tattatgtag acaccaaact tgagattatg	480
gagcatgacg aggactacaa ccatgtcaag ctgcgcgaga ttgctacagc tcgccatcat	540
gggctgaagg gtaagcctat ccctaaccct ctctcggac tcgattctac gcgtaccggt	600
tag	603

<210> 48
 <211> 200
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 48	
Met Ala Arg Leu Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Ala Phe	
1 5 10 15	
Met Tyr Gly Asn Arg Val Phe Thr Lys Tyr Pro Lys Glu Ile Pro Asp	
20 25 30	
Tyr Phe Lys Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Lys Met	
35 40 45	
Thr Tyr Glu Asp Gly Gly Ile Ser Asn Val Arg Ser His Ile Arg Met	
50 55 60	
Lys Glu Glu Glu Arg His Phe Phe Tyr Asp Ile Lys Phe Thr Gly	
65 70 75 80	
Met Asn Phe Pro Pro His Gly Pro Val Met Gln Arg Lys Thr Val Lys	
85 90 95	
Trp Glu Pro Ser Thr Glu Val Met Tyr Val Asp Asp Lys Ser Asp Gly	

130	Gly	Asp	Ser	Phe	Phe	Tyr	Asp	Ile	Lys	Phe	Thr	Gly	Met	Asn	Phe	Pro
145	Pro	His	Gly	Pro	Val	Met	Gln	Arg	Lys	Thr	Val	Lys	Trp	Glu	Pro	Ser
	Thr	Glu	Val	Met	Tyr	Val	Asp	Asp	Lys	Ser	Asp	Gly	Val	Leu	Lys	Gly
	His	Asp	Asp	Met	Thr	Leu	Arg	Val	Glu	Gly	Gly	Arg	His	Leu	Arg	Val
	Asp	Phe	Asn	Thr	Ser	Tyr	Ile	Pro	Lys	His	Ser	Ile	Asn	Met	Pro	Asp
	Phe	His	Phe	Ile	Asp	His	Arg	Ile	Glu	Ile	Met	Glu	His	Asp	Glu	Asp
225	Tyr	Asn	His	Val	Lys	Leu	Arg	Glu	Ile	Ala	Thr	Ala	Arg	His	His	Gly
	Leu	Lys	Gly	Lys	Pro	Ile	Pro	Asn	Pro	Leu	Leu	Gly	Leu	Asp	Ser	Thr
	Arg	Thr	Gly													

<210> 51
 <211> 717
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 51	atgaagggg	tgaaggaagt	aatgaagatc	agtctggaga	tggactgcac	tggttaacggc	60
	gacaaatttg	agatcgaagg	ggagggaac	ggaaaacctt	acgcaggagt	acagtttatg	120
	tctcttgaag	tggtgaatgg	cgcgctctg	acgttttctt	tcgatgtatt	gacaccagca	180
	tttcagtatg	gaaaccgtac	attcaccaaa	taccagccg	atataccaga	ctatatcaag	240
	ctgtcctttc	ctgagggctt	tacctgggag	cgaagcattc	cttttcaaga	ccaggcctca	300
	tgtaccgtca	caagcgacat	cagtgtgaaa	ggtgactctt	tcttctatga	cattaagtctc	360
	actggcatga	actttcctcc	taatggtcca	gtgatgcaga	ggaggatacg	aggatgggag	420
	ccatccactg	aaaacattta	tcctcgcgac	gaatttctgg	agggacatga	cgacatgact	480
	ctgcgggttg	aaggtggcgg	ctattacaga	gctgaattta	gaagttctta	caaaggcaag	540
	aagaaggtcg	agaatatgcc	tgactaccat	tttatagacc	accgcattga	gattctgggc	600
	aaccagaag	acaagccggt	caagctgtac	gagattgcta	cagctcgcca	tcatgggctg	660
	aagggtaaag	ctatccctaa	ccctctctc	ggactcgcatt	ctacgcgtac	cggtttag	717

<210> 52
 <211> 238
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 52	Met	Lys	Gly	Val	Lys	Glu	Val	Met	Lys	Ile	Ser	Leu	Glu	Met	Asp	Cys
1	Thr	Val	Asn	Gly	Asp	Lys	Phe	Glu	Ile	Glu	Gly	Glu	Gly	Asn	Gly	Lys
	Pro	Tyr	Ala	Gly	Val	Gln	Phe	Met	25	Ser	Leu	Glu	Val	Val	Asn	Gly
	Pro	Leu	Thr	Phe	Ser	Phe	Asp	Val	40	Leu	Thr	Pro	Ala	Phe	Gln	Tyr
	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	55	Ala	Asp	Ile	Pro	Asp	Tyr	Ile
65	Leu	Ser	Phe	Pro	Glu	Gly	Phe	Thr	70	Trp	Glu	Arg	Ser	Ile	Pro	Phe
	Asp	Gln	Ala	Ser	Cys	Thr	Val	Thr	85	Ser	Asp	Ile	Ser	Val	Lys	Gly

130	Leu Tyr Leu Arg Asp Gly	135	Val Leu Thr Gly His	140	Asp Asp Met Thr Leu
145	Arg Val Glu Gly Gly Arg	150	His Leu Arg Val Asp	155	Phe Asn Thr Ser Tyr
	Ile Pro Lys His Ser Ile	165	Asn Met Pro Asp Phe	170	His Phe Ile Asp His
	Arg Ile Glu Ile Leu Gly	180	Asn Pro Glu Asp Lys	185	Pro Val Lys Leu Tyr
	Glu Ile Ala Thr Ala Arg	195	His His Gly Leu Lys	200	Gly Lys Pro Ile Pro
210	Asn Pro Leu Leu Gly Leu	215	Asp Ser Thr Arg Thr	220	Gly
225		230		235	

<210> 57
 <211> 735
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 57	atgagtcatt ccaagagtgt gatcaaggac gaaatgttca tcaagattca tctggaaggc	60
	actttttaacg gccacaaatt tacgatcaaa ggggaaggag gaggataccc ttacgaagga	120
	acaaatttttg taaaacttgt agtgacgaaa ggcgggcctc tgccgttttc tttcgatata	180
	ttgacaccag catttcagta tggaaaccgt acattcacca aatacccagc cgatatacca	240
	gactatatca agctgtcctt tcctgagggc tttacctggg agcgaagcat tccttttcaa	300
	gaccaggcct catgtaccgt cacaagccac atcaggatga aagaggaaga ggagcggcat	360
	ttctactata agattcactt cactggcgag tttcctccta atggtccagt gatgcagagg	420
	aggatacgag gatgggagcc atccactgaa cgattgtatc ttcgcgacgg tgtgctgacg	480
	ggacatgacg acatgactct gcgggttgaa ggtggccgcc atttgagagt tgactttaac	540
	acttcttaca tacccaagca ctcgatcaac atgcccggatt tccattttat agaccaccgc	600
	attgagatta tggagcatga cgaggactac aacctgttca agctgcgcga gattgctaca	660
	gctcgccatc atgggctgaa gggtaaagcct atcccctaacc ctctcctcgg actcgattct	720
	acgcgtaccg gttag	735

<210> 58
 <211> 244
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 58	Met Ser His Ser Lys Ser Val Ile Lys Asp Glu Met Phe Ile Lys Ile
1	His Leu Glu Gly Thr Phe Asn Gly His Lys Phe Thr Ile Lys Gly Glu
	Gly Gly Gly Tyr Pro Tyr Glu Gly Thr Asn Phe Val Lys Leu Val Val
	Thr Lys Gly Gly Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Ala
	Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro Ala Asp Ile Pro
65	Asp Tyr Ile Lys Leu Ser Phe Pro Glu Gly Phe Thr Trp Glu Arg Ser
	Ile Pro Phe Gln Asp Gln Ala Ser Cys Thr Val Thr Ser His Ile Arg
	Met Lys Glu Glu Glu Arg His Phe Tyr Tyr Lys Ile His Phe Thr
	Gly Glu Phe Pro Pro Asn Gly Pro Val Met Gln Arg Arg Ile Arg Gly
130	

Glu	Arg	Leu	Tyr	Leu	Arg	Asp	Gly	Val	Leu	Thr	Gly	His	Asp	Asp	Met
145					150					155					160
Thr	Leu	Arg	Val	Glu	Gly	Gly	Gly	His	Tyr	Thr	Cys	Val	Phe	Lys	Thr
				165					170					175	
Ile	Tyr	Arg	Ser	Lys	His	Ser	Ile	Asn	Met	Pro	Asp	Phe	His	Phe	Ile
			180					185					190		
Asp	His	Arg	Ile	Glu	Ile	Met	Glu	His	Asp	Glu	Asp	Tyr	Asn	His	Val
		195					200					205			
Lys	Leu	Arg	Glu	Ile	Ala	Thr	Ala	Arg	His	His	Gly	Leu	Lys	Gly	Lys
	210				215						220				
Pro	Ile	Pro	Asn	Pro	Leu	Leu	Gly	Leu	Asp	Ser	Thr	Arg	Thr	Gly	
225					230					235					

<210> 61
 <211> 720
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 61																
atgaaggggg	tgaaggaagt	aatgaagatc	agtctggaga	tggactgcac	tggttaacggc											60
gacaaattta	cgatcaaagg	ggaaggagga	ggataccctt	acgaaggagt	acagtttatg											120
tctcttgaag	tggtgaatgg	cgcgctctg	ccgttttctt	tcgatataatt	gacaccagca											180
tttatgtatg	gaaaccgtgt	attcaccaaa	taccacaaaag	agataccaga	ctatttcaag											240
cagacccttc	ctgaaggcta	tcactgggag	cgaataatga	cttttgagga	cgggggcgta											300
tggtgcatca	caagcgacat	cagtgtgaaa	gggtgactctt	tctactataa	gattcacttc											360
actggcgagt	ttcctcctca	tggtccagtg	atgcagagaa	agacagtaaa	atgggagcca											420
tccactgaag	taatgtatgt	tgacgacaag	agtgacgggtg	tgctgaagggt	agatgtcaac											480
atggctctgt	tgcttaaaga	tggcgggtcat	tacacatgtg	tctttaaaac	tatttacaga											540
tccaagcact	cgatcaacat	gccggatttc	cattttatag	accaccgcat	tgagattctg											600
ggcaaccag	aagacaagcc	ggtcaagctg	tacgagattg	ctacagctcg	ccatcatggg											660
ctgaagggtg	agcctatccc	taaccctctc	ctcggactcg	attctacgcg	taccggttag											720

<210> 62
 <211> 239
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 62																
Met	Lys	Gly	Val	Lys	Glu	Val	Met	Lys	Ile	Ser	Leu	Glu	Met	Asp	Cys	
1				5				10					15			
Thr	Val	Asn	Gly	Asp	Lys	Phe	Thr	Ile	Lys	Gly	Glu	Gly	Gly	Gly	Tyr	
		20					25						30			
Pro	Tyr	Glu	Gly	Val	Gln	Phe	Met	Ser	Leu	Glu	Val	Val	Asn	Gly	Ala	
		35					40					45				
Pro	Leu	Pro	Phe	Ser	Phe	Asp	Ile	Leu	Thr	Pro	Ala	Phe	Met	Tyr	Gly	
	50					55					60					
Asn	Arg	Val	Phe	Thr	Lys	Tyr	Pro	Lys	Glu	Ile	Pro	Asp	Tyr	Phe	Lys	
65					70				75						80	
Gln	Thr	Phe	Pro	Glu	Gly	Tyr	His	Trp	Glu	Arg	Ile	Met	Thr	Phe	Glu	
			85					90						95		
Asp	Gly	Gly	Val	Cys	Cys	Ile	Thr	Ser	Asp	Ile	Ser	Val	Lys	Gly	Asp	
			100				105						110			
Ser	Phe	Tyr	Tyr	Lys	Ile	His	Phe	Thr	Gly	Glu	Phe	Pro	Pro	His	Gly	
		115					120					125				
Pro	Val	Met	Gln	Arg	Lys	Thr	Val	Lys	Trp	Glu	Pro	Ser	Thr	Glu	Val	
	130					135					140					
Met	Tyr	Val	Asp	Asp	Lys	Ser	Asp	Gly	Val	Leu	Lys	Gly	Asp	Val	Asn	
145					150					155					160	

Met Ala Leu Leu Leu Lys Asp Gly Gly His Tyr Thr Cys Val Phe Lys
 165 170 175
 Thr Ile Tyr Arg Ser Lys His Ser Ile Asn Met Pro Asp Phe His Phe
 180 185 190
 Ile Asp His Arg Ile Glu Ile Leu Gly Asn Pro Glu Asp Lys Pro Val
 195 200 205
 Lys Leu Tyr Glu Ile Ala Thr Ala Arg His His Gly Leu Lys Gly Lys
 210 215 220
 Pro Ile Pro Asn Pro Leu Leu Gly Leu Asp Ser Thr Arg Thr Gly
 225 230 235

<210> 63
 <211> 516
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 63
 atgagtcatt ccaagagtgt gatcaaggac gaaatgttca tcaagattca tctggaaggc 60
 acttttaacg gccacaaatt tacgatcaaa ggggaaggag gaggataccc ttacgaagga 120
 gtacagttta tgtctcttga agtgggtgaat ggcgcgcctc tgacgttttc tttcgatgta 180
 ttgacaccac aattacagta tggaaacaag tcattcgtca gctacccaaa agagatacca 240
 gactattttca agcagacctt tcctgaaggc tatcactggg agcgaataat gacttttgag 300
 gacgggggag tatgttgcac cacaagcgac atcagtgtga aaggtgactc tttctactat 360
 aagattcact tcactggcga gtttcctcct catgggtccag tgatgcagag aaagacagta 420
 aaatgggagc catccactga aaacatttat cctcgcgacg aatttctgga gggagatgtc 480
 aacatggctc tgttgcttaa agaggccgcc atttga 516

<210> 64
 <211> 171
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 64
 Met Ser His Ser Lys Ser Val Ile Lys Asp Glu Met Phe Ile Lys Ile
 1 5 10 15
 His Leu Glu Gly Thr Phe Asn Gly His Lys Phe Thr Ile Lys Gly Glu
 20 25 30
 Gly Gly Gly Tyr Pro Tyr Glu Gly Val Gln Phe Met Ser Leu Glu Val
 35 40 45
 Val Asn Gly Ala Pro Leu Thr Phe Ser Phe Asp Val Leu Thr Pro Gln
 50 55 60
 Leu Gln Tyr Gly Asn Lys Ser Phe Val Ser Tyr Pro Lys Glu Ile Pro
 65 70 75 80
 Asp Tyr Phe Lys Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Ile
 85 90 95
 Met Thr Phe Glu Asp Gly Gly Val Cys Cys Ile Thr Ser Asp Ile Ser
 100 105 110
 Val Lys Gly Asp Ser Phe Tyr Tyr Lys Ile His Phe Thr Gly Glu Phe
 115 120 125
 Pro Pro His Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro
 130 135 140
 Ser Thr Glu Asn Ile Tyr Pro Arg Asp Glu Phe Leu Glu Gly Asp Val
 145 150 155 160
 Asn Met Ala Leu Leu Lys Glu Ala Ala Ile
 165 170

<210> 65
 <211> 714

<212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 65
 atgaaggggg tgaaggaagt aatgaagatc agtctggaga tggactgcac tgttaacggc 60
 gacaaattta cgatcaaagg ggaaggagga ggataccctt acgaaggagt acagtttatg 120
 tctcttgaag tgggtgaatgg cgcgcctctg ccgttttctt tcgatatatt gacaccagca 180
 tttatgtatg gaaaccgtgt attcaccaaa tacccaaaag agataccaga ctatttcaag 240
 cagacctttc ctgaaggcta tctactggag cgaataatga cttttgagga cgggggcgta 300
 tgttgcata caagcgacat cagtgtgaaa ggtgactctt tctactataa gattcacttc 360
 actggcgagt ttcctcctca tgggtccagt atgcagagaa agacagtaaa atgggagcca 420
 tccactgaaa acatttatcc tcgcgacgaa tttctggagg gagatgtcaa catggctctg 480
 ttgcttaaag atggccgcca tttagagagt gactttaaca cttcttacat acccaagaag 540
 aaggtcgaga atatgcctga ctaccatttt atagaccacc gcattgagat tctgggcaac 600
 ccagaagaca agccggtcaa gctgtacgag attgctacag ctcgccatca tgggctgaag 660
 ggtaagccta tccctaaccc tctcctcgga ctcgattcta cgcgtaccgg ttag 714

<210> 66
 <211> 237
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 66
 Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Asp Cys
 1 5 10 15
 Thr Val Asn Gly Asp Lys Phe Thr Ile Lys Gly Glu Gly Gly Tyr
 20 25 30
 Pro Tyr Glu Gly Val Gln Phe Met Ser Leu Glu Val Val Asn Gly Ala
 35 40 45
 Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Ala Phe Met Tyr Gly
 50 55 60
 Asn Arg Val Phe Thr Lys Tyr Pro Lys Glu Ile Pro Asp Tyr Phe Lys
 65 70 75 80
 Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Ile Met Thr Phe Glu
 85 90 95
 Asp Gly Gly Val Cys Cys Ile Thr Ser Asp Ile Ser Val Lys Gly Asp
 100 105 110
 Ser Phe Tyr Tyr Lys Ile His Phe Thr Gly Glu Phe Pro Pro His Gly
 115 120 125
 Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro Ser Thr Glu Asn
 130 135 140
 Ile Tyr Pro Arg Asp Glu Phe Leu Glu Gly Asp Val Asn Met Ala Leu
 145 150 155 160
 Leu Leu Lys Asp Gly Arg His Leu Arg Val Asp Phe Asn Thr Ser Tyr
 165 170 175
 Ile Pro Lys Lys Lys Val Glu Asn Met Pro Asp Tyr His Phe Ile Asp
 180 185 190
 His Arg Ile Glu Ile Leu Gly Asn Pro Glu Asp Lys Pro Val Lys Leu
 195 200 205
 Tyr Glu Ile Ala Thr Ala Arg His His Gly Leu Lys Gly Lys Pro Ile
 210 215 220
 Pro Asn Pro Leu Leu Gly Leu Asp Ser Thr Arg Thr Gly
 225 230 235

<210> 67
 <211> 639
 <212> DNA
 <213> Artificial Sequence

<220>
<223> Synthetically generated

<400> 67
atgaaggggg tgaaggaagt aatgaagatc agtctggaga tggactgcac tgttaacggc 60
gacaaattta cgatcaaagg ggaaggagga ggataccctt acgaaggagt acagtttatg 120
tctcttgaag tgggtgaatgg cgcgccctctg ccgttttggtt ggcatatatt gtcaccacaa 180
ttacagtatg gaaacaagtc attcgtcagc taccaggga atataccaga ctttttcaag 240
cagaccgttt ctggtggcgg gtataacctac tataagattc acttcactgg cgagtttcct 300
cctaattggtc cagtgatgca gaggaggata cgaggatggg agccatccac tgaacgattg 360
tatcttcgag acggtgtgct gacgggagat atccacaaga ctctgaaact tagcgggtggc 420
cgccatttga gagttgactt taacacttct tacataccca agcactcgat caacatgccg 480
gatttccatt ttatagacca ccgattgat attcggaagt tcgacgaaaa ttacatcaac 540
gtcagacagg acgagattgc tacagctcgc catcatgggc tgaagggtaa gcctatccct 600
aaccctctcc tcggactcga ttctacgcgt accggttag 639

<210> 68
<211> 212
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetically generated

<400> 68
Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Asp Cys
1 5 10 15
Thr Val Asn Gly Asp Lys Phe Thr Ile Lys Gly Glu Gly Gly Tyr
20 25 30
Pro Tyr Glu Gly Val Gln Phe Met Ser Leu Glu Val Val Asn Gly Ala
35 40 45
Pro Leu Pro Phe Gly Trp His Ile Leu Ser Pro Gln Leu Gln Tyr Gly
50 55 60
Asn Lys Ser Phe Val Ser Tyr Pro Gly Asn Ile Pro Asp Phe Phe Lys
65 70 75 80
Gln Thr Val Ser Gly Gly Gly Tyr Thr Tyr Tyr Lys Ile His Phe Thr
85 90 95
Gly Glu Phe Pro Pro Asn Gly Pro Val Met Gln Arg Arg Ile Arg Gly
100 105 110
Trp Glu Pro Ser Thr Glu Arg Leu Tyr Leu Arg Asp Gly Val Leu Thr
115 120 125
Gly Asp Ile His Lys Thr Leu Lys Leu Ser Gly Gly Arg His Leu Arg
130 135 140
Val Asp Phe Asn Thr Ser Tyr Ile Pro Lys His Ser Ile Asn Met Pro
145 150 155 160
Asp Phe His Phe Ile Asp His Arg Ile Asp Ile Arg Lys Phe Asp Glu
165 170 175
Asn Tyr Ile Asn Val Glu Gln Asp Glu Ile Ala Thr Ala Arg His His
180 185 190
Gly Leu Lys Gly Lys Pro Ile Pro Asn Pro Leu Leu Gly Leu Asp Ser
195 200 205
Thr Arg Thr Gly
210

<210> 69
<211> 741
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetically generated

<400> 69

atgagtcatt	ccaagagtgt	gatcaaggac	gaaatgttca	tcaagattca	tctggaaggc	60
acttttaacg	gccacaaatt	tgagatcgaa	ggggagggaa	acggaaaacc	ttacgcagga	120
acaaattttg	taaaacttgt	agtgcagaaa	ggcgggcctc	tgacgttttc	tttcgatgta	180
ttgacaccag	catttatgta	tgaaaaccgt	gtattcacca	aatacccaaa	agagatacca	240
gactatttca	agcagacctt	tcctgaaggc	tatcactggg	agcgaataat	gacttttgag	300
gacgggggcg	tatgttgcac	cacaagcgac	atcagtgtga	aagggtgactc	tttcttctat	360
gacattaagt	tcactggcat	gaactttcct	cctcatgggc	cagtgatgca	gagaaagaca	420
gtaaaatggg	agccatccac	tgaagtaatg	tatgttgacg	acaagagtga	cggtgtgctg	480
aagggagatg	tcaacatggc	tctgttgctt	aaagatggcg	gctattacag	agctgaattt	540
agaagtctct	acaaaggcaa	gaagaaggct	gagaatatgc	ctgactacca	ttttatagac	600
caccgcattg	agattatgga	gcatgacgag	gactacaacc	atgtcaagct	gcgcgagatt	660
gctacagctc	gccatcatgg	gctgaagggg	aagcctatcc	ctaaccctct	cctcggactc	720
gattctacgc	gtaccggtta	g				741

<210> 70
 <211> 246
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 70
 Met Ser His Ser Lys Ser Val Ile Lys Asp Glu Met Phe Ile Lys Ile
 1 5 10 15
 His Leu Glu Gly Thr Phe Asn Gly His Lys Phe Glu Ile Glu Gly Glu
 20 25 30
 Gly Asn Gly Lys Pro Tyr Ala Gly Thr Asn Phe Val Lys Leu Val Val
 35 40 45
 Thr Lys Gly Gly Pro Leu Thr Phe Ser Phe Asp Val Leu Thr Pro Ala
 50 55 60
 Phe Met Tyr Gly Asn Arg Val Phe Thr Lys Tyr Pro Lys Glu Ile Pro
 65 70 75 80
 Asp Tyr Phe Lys Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Ile
 85 90 95
 Met Thr Phe Glu Asp Gly Gly Val Cys Cys Ile Thr Ser Asp Ile Ser
 100 105 110
 Val Lys Gly Asp Ser Phe Phe Tyr Asp Ile Lys Phe Thr Gly Met Asn
 115 120 125
 Phe Pro Pro His Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu
 130 135 140
 Pro Ser Thr Glu Val Met Tyr Val Asp Asp Lys Ser Asp Gly Val Leu
 145 150 155 160
 Lys Gly Asp Val Asn Met Ala Leu Leu Leu Lys Asp Gly Gly Tyr Tyr
 165 170 175
 Arg Ala Glu Phe Arg Ser Ser Tyr Lys Gly Lys Lys Lys Val Glu Asn
 180 185 190
 Met Pro Asp Tyr His Phe Ile Asp His Arg Ile Glu Ile Met Glu His
 195 200 205
 Asp Glu Asp Tyr Asn His Val Lys Leu Arg Glu Ile Ala Thr Ala Arg
 210 215 220
 His His Gly Leu Lys Gly Lys Pro Ile Pro Asn Pro Leu Leu Gly Leu
 225 230 235 240
 Asp Ser Thr Arg Thr Gly
 245

<210> 71
 <211> 462
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

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<400> 71
atgatgaccg atctgcatct ggactgcact gttaacggcg acaaattttac gatcaaaggg      60
gaaggaggag gataccctta cgaaggagta cagtttatgt ctcttgaagt ggtgaatggc      120
gcgcctctgc cgttttcttt cgatatattg acaccacaat tacagtatgg aaacaagtca      180
ttcgtcagct acccaaaaga gataccagac tattttcaagc agacctttcc tgaaggctat      240
cactgggagc gaataatgac ttttgaggac gggggcgat gttgcatcac aagcgacatc      300
agtgtgaaag gtgactcttt ctactataag attcacttca ctggcgagtt tcctcctcat      360
ggtccagtga tgcagagaaa gacagtaaaa tgggagccat ccactgaagt aatgtatgtt      420
gacgacaaga gtgacggtgt gcgaaggagc atgacgacat ga                        462

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<210> 72
<211> 153
<212> PRT
<213> Artificial Sequence

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<220>
<223> Synthetically generated

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<400> 72
Met Met Thr Asp Leu His Leu Asp Cys Thr Val Asn Gly Asp Lys Phe
1      5      10      15
Thr Ile Lys Gly Glu Gly Gly Tyr Pro Tyr Glu Gly Val Gln Phe
20     25     30
Met Ser Leu Glu Val Val Asn Gly Ala Pro Leu Pro Phe Ser Phe Asp
35     40     45
Ile Leu Thr Pro Gln Leu Gln Tyr Gly Asn Lys Ser Phe Val Ser Tyr
50     55     60
Pro Lys Glu Ile Pro Asp Tyr Phe Lys Gln Thr Phe Pro Glu Gly Tyr
65     70     75     80
His Trp Glu Arg Ile Met Thr Phe Glu Asp Gly Gly Val Cys Cys Ile
85     90     95
Thr Ser Asp Ile Ser Val Lys Gly Asp Ser Phe Tyr Tyr Lys Ile His
100    105    110
Phe Thr Gly Glu Phe Pro Pro His Gly Pro Val Met Gln Arg Lys Thr
115    120    125
Val Lys Trp Glu Pro Ser Thr Glu Val Met Tyr Val Asp Asp Lys Ser
130    135    140
Asp Gly Val Arg Arg Asp Met Thr Thr
145    150

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<210> 73
<211> 726
<212> DNA
<213> Artificial Sequence

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<220>
<223> Synthetically generated

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<400> 73
atgaaggggg tgaaggaagt aatgaagatc agtctggaga tggagggcgc tgtaacggc      60
caccactttg agatcgaagg ggagggaaac ggaaaacctt acgcaggagt acagtttatg      120
tctcttgaag tggatgaatg cggcctctg ccgttttctt tcgatatatt gacaccagca      180
tttatgtatg gaaaccgtgt attcacaaa tacccaaaag agataccaga ctatttcaag      240
cagacctttc ctgaaggcta tcactgggag cgaataatga cttttgagga cgggggcgta      300
tgttgcatca caagccacat caggatgaaa gaggaagagg agcggcattt ctactataag      360
attcacttca ctggcgagtt tcctcctcat ggtccagtga tgcagagaaa gacagtaaaa      420
tgggagccat ccactgaaaa catttatcct cgcgacgaat ttctggaggg agatgtcaac      480
atggctctgt tgcttaaaga tggccgcat ttgagagttg actttaacac ttcttacata      540
cccaagaaga aggtcgagaa tatgcctgac taccatttta tagaccaccg cattgagatt      600
atggagcatg acgaggacta caaccatgtc aagctgcgcg agattgctac agctcgccat      660
catgggctga agggtaagcc tatccctaac cctctcctcg gactcgattc tacgcgtacc      720
ggttag                                           726

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```

<210> 74

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<211> 241
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 74
 Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Glu Gly
 1 5 10 15
 Ala Val Asn Gly His His Phe Glu Ile Glu Gly Glu Gly Asn Gly Lys
 20 25 30
 Pro Tyr Ala Gly Val Gln Phe Met Ser Leu Glu Val Val Asn Gly Ala
 35 40 45
 Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Ala Phe Met Tyr Gly
 50 55 60
 Asn Arg Val Phe Thr Lys Tyr Pro Lys Glu Ile Pro Asp Tyr Phe Lys
 65 70 75 80
 Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Ile Met Thr Phe Glu
 85 90 95
 Asp Gly Gly Val Cys Cys Ile Thr Ser His Ile Arg Met Lys Glu Glu
 100 105 110
 Glu Glu Arg His Phe Tyr Tyr Lys Ile His Phe Thr Gly Glu Phe Pro
 115 120 125
 Pro His Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro Ser
 130 135 140
 Thr Glu Asn Ile Tyr Pro Arg Asp Glu Phe Leu Glu Gly Asp Val Asn
 145 150 155 160
 Met Ala Leu Leu Leu Lys Asp Gly Arg His Leu Arg Val Asp Phe Asn
 165 170 175
 Thr Ser Tyr Ile Pro Lys Lys Lys Val Glu Asn Met Pro Asp Tyr His
 180 185 190
 Phe Ile Asp His Arg Ile Glu Ile Met Glu His Asp Glu Asp Tyr Asn
 195 200 205
 His Val Lys Leu Arg Glu Ile Ala Thr Ala Arg His His Gly Leu Lys
 210 215 220
 Gly Lys Pro Ile Pro Asn Pro Leu Leu Gly Leu Asp Ser Thr Arg Thr
 225 230 235 240
 Gly

<210> 75
 <211> 492
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 75
 atgatgaccg atctgcatct ggagggcgct gttaacggcc accactttac gatcaaaggg 60
 gaaggaggag gataccctta cgaaggaaca cagactttac atcttacaga gaaggaaggg 120
 aagcctctgc cgtttggttg gcataatattg tcaccacaat tacagtatgg aaacaagtca 180
 ttcgtcagct acccaaaaga gataccagac tatttcaagc agacctttcc tgaaggctat 240
 cactgggagc gaataatgac ttttgaggac gggggcgctat gttgcatcac aagcgacatc 300
 agtgtgaaag gtgactcttt cttctatgac attaagttca ctggcatgaa ctttcctcct 360
 catggtccag tgatgcagag aaagacagta aaatgggagc catccactga aaacatttat 420
 cctcgcgacg aatttctgga gggacatgac gacatgactc tgcgggtgaa gtggccgcca 480
 tttgagagtt ga 492

<210> 76
 <211> 163
 <212> PRT
 <213> Artificial Sequence

<220>
<223> Synthetically generated

<400> 76
Met Met Thr Asp Leu His Leu Glu Gly Ala Val Asn Gly His His Phe
1 5 10 15
Thr Ile Lys Gly Glu Gly Gly Tyr Pro Tyr Glu Gly Thr Gln Thr
20 25 30
Leu His Leu Thr Glu Lys Glu Gly Lys Pro Leu Pro Phe Gly Trp His
35 40 45
Ile Leu Ser Pro Gln Leu Gln Tyr Gly Asn Lys Ser Phe Val Ser Tyr
50 55 60
Pro Lys Glu Ile Pro Asp Tyr Phe Lys Gln Thr Phe Pro Glu Gly Tyr
65 70 75 80
His Trp Glu Arg Ile Met Thr Phe Glu Asp Gly Gly Val Cys Cys Ile
85 90 95
Thr Ser Asp Ile Ser Val Lys Gly Asp Ser Phe Phe Tyr Asp Ile Lys
100 105 110
Phe Thr Gly Met Asn Phe Pro Pro His Gly Pro Val Met Gln Arg Lys
115 120 125
Thr Val Lys Trp Glu Pro Ser Thr Glu Asn Ile Tyr Pro Arg Asp Glu
130 135 140
Phe Leu Glu Gly His Asp Asp Met Thr Leu Arg Val Lys Trp Pro Pro
145 150 155 160
Phe Glu Ser

<210> 77
<211> 717
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetically generated

<400> 77
atgaaggggg tgaaggaagt aatgaagatc agtctggaga tggagggcgc tgtaaacggc 60
caccacttta cgatcaaagg ggaaggagga ggataccctt acgaaggagt acagtttatg 120
tctcttgaag tggatgaatg gcgcctctg ccgttttctt tcgatataat gacaccagca 180
tttatgtatg gaaaccgtgt attcaccaa taccctaaaag agataccaga ctatttcaag 240
cagacctttc ctgaaggcta tctactggag cgaataatga cttttgagga cgggggcgta 300
tggtgcatca caagcgacat cagtgtgaaa ggtgactctt tcttctatga cattaagtgc 360
actggcatga actttcctcc tcatgggtcca gtgatgcaga gaaagacagt aaaatgggag 420
ccatccactg aacgattgta tcttcgcgac ggtgtgctga cgggacatga cgacatgact 480
ctgcgggttg aagggtggcg ccattacaca tgtgtcttta aaactattta cagatccaag 540
aagaaggctc agaatatgcc tgactaccat tttatagacc accgcattga gattctgggc 600
aaccagaag acaagccggt caagctgtac gagattgcta cagctcgcca tcatgggctg 660
aagggttaag ctatccctaa ccctctcctc ggactcgtatt ctacgcgtac cggttag 717

<210> 78
<211> 238
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetically generated

<400> 78
Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Glu Gly
1 5 10 15
Ala Val Asn Gly His His Phe Thr Ile Lys Gly Glu Gly Gly Gly Tyr
20 25 30
Pro Tyr Glu Gly Val Gln Phe Met Ser Leu Glu Val Val Asn Gly Ala

Pro	Leu	35	Pro	Phe	Ser	Phe	Asp	40	Ile	Leu	Thr	Pro	Ala	45	Phe	Met	Tyr	Gly
Asn	Arg	50	Val	Phe	Thr	Lys	55	Tyr	Pro	Lys	Glu	Ile	60	Pro	Asp	Tyr	Phe	Lys
Gln	Thr	65	Phe	Pro	Glu	70	Gly	Tyr	His	Trp	Glu	75	Arg	Ile	Met	Thr	Phe	80
Asp	Gly	85	Gly	Val	Cys	Cys	Ile	Thr	Ser	100	Asp	Ile	Ser	Val	Lys	Gly	95	Asp
Ser	Phe	105	Phe	Tyr	Asp	Ile	Lys	Phe	Thr	110	Gly	Met	Asn	Phe	Pro	Pro	His	115
Gly	Pro	120	Val	Met	Gln	Arg	Lys	Thr	Val	125	Lys	Trp	Glu	Pro	Ser	Thr	Glu	130
Arg	Leu	135	Tyr	Leu	Arg	Asp	Gly	Val	Leu	140	Thr	Gly	His	Asp	Asp	Met	Thr	145
Leu	Arg	150	Val	Glu	Gly	Gly	His	Tyr	Thr	155	Cys	Val	Phe	Lys	Thr	Ile	160	165
Tyr	Arg	170	Ser	Lys	Lys	Val	Glu	Asn	Met	175	Pro	Asp	Tyr	His	Phe	Ile	180	185
Asp	His	190	Arg	Ile	Glu	Ile	Leu	Gly	Asn	200	Pro	Glu	Asp	Lys	Pro	Val	Lys	195
Leu	Tyr	205	Glu	Ile	Ala	Thr	Ala	Arg	His	210	His	Gly	Leu	Lys	Gly	Lys	Pro	215
Ile	Pro	220	Asn	Pro	Leu	Leu	Gly	Leu	Asp	225	Ser	Thr	Arg	Thr	Gly			230

<210> 79
 <211> 726
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 79

atgaagggg	tgaaggaagt	aatgaagatc	agtctggaga	tggagggcgc	tgtaacggc	60
caccacttta	cgatcaaagg	ggaaggagga	ggataccctt	acgaaggaac	aaattttgta	120
aaacttgtag	tgacgaaagg	cgggcctctg	ccgttttctt	tcgatataatt	gacaccacaa	180
ttacagtatg	gaaacaagtc	attcgtcagc	tacccaaaag	agataccaga	ctatttcaag	240
cagacctttc	ctgaaggcta	tcactgggag	cgaaaaatga	cttatgagga	cggggggcata	300
agtaacgtcc	gaagccacat	caggatgaaa	gaggaagagg	agcggcattt	cttctatgac	360
attaagttca	ctggcatgaa	ctttcctcct	catggtccag	tgatgcagag	aaagacagta	420
aaatgggagc	catccactga	aaacatttat	cctcgcgcag	aatttctgga	gggacatgac	480
gacatgactc	tgcggggtga	aggtggcggc	cattacacat	gtgtctttaa	aactatttac	540
agatccaagc	actcgatcaa	catgccggat	ttccatttta	tagaccaccg	cattgagatt	600
atggagcatg	acgaggacta	caaccatgtc	aagctgcgcg	agattgctac	agctcgccat	660
catgggctga	agggtaaagg	tatccctaac	cctctcctcg	gactcgattc	tacgcgtacc	720
ggttag						726

<210> 80
 <211> 241
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 80

Met	Lys	Gly	Val	Lys	Glu	Val	Met	Lys	Ile	Ser	Leu	Glu	Met	Glu	Gly
1				5					10					15	
Ala	Val	Asn	Gly	His	His	Phe	Thr	Ile	Lys	Gly	Glu	Gly	Gly	Gly	Tyr
		20						25					30		
Pro	Tyr	Glu	Gly	Thr	Asn	Phe	Val	Lys	Leu	Val	Val	Thr	Lys	Gly	Gly
	35						40					45			

Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Gln Leu Gln Tyr Gly
 50 55 60
 Asn Lys Ser Phe Val Ser Tyr Pro Lys Glu Ile Pro Asp Tyr Phe Lys
 65 70 75 80
 Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Lys Met Thr Tyr Glu
 85 90 95
 Asp Gly Gly Ile Ser Asn Val Arg Ser His Ile Arg Met Lys Glu Glu
 100 105 110
 Glu Glu Arg His Phe Phe Tyr Asp Ile Lys Phe Thr Gly Met Asn Phe
 115 120 125
 Pro Pro His Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro
 130 135 140
 Ser Thr Glu Asn Ile Tyr Pro Arg Asp Glu Phe Leu Glu Gly His Asp
 145 150 155 160
 Asp Met Thr Leu Arg Val Glu Gly Gly Gly His Tyr Thr Cys Val Phe
 165 170 175
 Lys Thr Ile Tyr Arg Ser Lys His Ser Ile Asn Met Pro Asp Phe His
 180 185 190
 Phe Ile Asp His Arg Ile Glu Ile Met Glu His Asp Glu Asp Tyr Asn
 195 200 205
 His Val Lys Leu Arg Glu Ile Ala Thr Ala Arg His His Gly Leu Lys
 210 215 220
 Gly Lys Pro Ile Pro Asn Pro Leu Leu Gly Leu Asp Ser Thr Arg Thr
 225 230 235 240
 Gly

<210> 81
 <211> 726
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 81
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 acttttaacg gccacaaatt tgagatcgaa ggggagggaa acggaacc ttacgcagga 120
 gtacagtta tgtctctga agtggtgaat ggcgcgcctc tgccgttttc ttctgatata 180
 ttgacaccag catttatgta tggaaaccgt gtattcacca aatacccaaa agagatacca 240
 gactatttca agcagacctt tcctgaaggc tatcactggg agcgaataat gacttttgag 300
 gacgggggag tatgttgcac cacaagcgac atcagtgtga aagggtgactc tttcttctat 360
 gacattaagt tcaactggcat gaactttcct cctaattggtc cagtgatgca gaggaggata 420
 cgaggatggg agccatccac tgaaaacatt tatcctcgcg acgaatttct ggagggacat 480
 gacgacatga ctctgcgggt tgaagggtggc ggccattaca catgtgtctt taaaactatt 540
 tacagatcca agcactcgat caacatgccg gatttccatt ttatagacca ccgcattgag 600
 attctgggca acccagaaga caagccggtc aagctgtacg agattgctac agctcgccat 660
 catgggctga agggtaaaggc tatccctaac cctctcctcg gactcgattc tacgcgtacc 720
 ggtag 726

<210> 82
 <211> 241
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 82
 Met Ser His Ser Lys Ser Val Ile Lys Asp Glu Met Phe Ile Lys Ile
 1 5 10 15
 His Leu Glu Gly Thr Phe Asn Gly His Lys Phe Glu Ile Glu Gly Glu
 20 25 30
 Gly Asn Gly Lys Pro Tyr Ala Gly Val Gln Phe Met Ser Leu Glu Val

	35					40				45					
Pro	Leu	Thr	Phe	Ser	Phe	Asp	Val	Leu	Thr	Pro	Gln	Leu	Gln	Tyr	Gly
50						55					60				
Asn	Lys	Ser	Phe	Val	Ser	Tyr	Pro	Lys	Glu	Ile	Pro	Asp	Tyr	Phe	Lys
65					70					75					80
Gln	Thr	Phe	Pro	Glu	Gly	Tyr	His	Trp	Glu	Arg	Ile	Met	Thr	Phe	Glu
				85					90					95	
Asp	Gly	Gly	Val	Cys	Cys	Ile	Thr	Ser	Asp	Ile	Ser	Val	Lys	Gly	Asp
			100					105					110		
Ser	Phe	Tyr	Tyr	Lys	Ile	His	Phe	Thr	Gly	Glu	Phe	Pro	Pro	His	Gly
			115				120					125			
Pro	Val	Met	Gln	Arg	Lys	Thr	Val	Lys	Trp	Glu	Pro	Ser	Thr	Glu	Asn
						135					140				
Ile	Tyr	Pro	Arg	Asp	Glu	Phe	Leu	Glu	Gly	His	Asp	Asp	Met	Thr	Leu
145					150					155					160
Arg	Val	Glu	Gly	Gly	Gly	Tyr	Tyr	Arg	Ala	Glu	Phe	Arg	Ser	Ser	Tyr
				165					170					175	
Lys	Gly	Lys	Lys	Asn	Leu	Thr	Leu	Pro	Asp	Cys	Phe	Tyr	Tyr	Val	Asp
			180					185					190		
Thr	Lys	Leu	Glu	Ile	Met	Glu	His	Asp	Glu	Asp	Tyr	Asn	His	Val	Lys
		195					200					205			
Leu	Arg	Glu	Ile	Ala	Thr	Ala	Arg	His	His	Gly	Leu	Lys	Gly	Lys	Pro
		210				215					220				
Ile	Pro	Asn	Pro	Leu	Leu	Gly	Leu	Asp	Ser	Thr	Arg	Thr	Gly		
225					230					235					

<210> 85

<211> 546

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated

<400> 85

ttgacaccag	catttatgta	tggaaaccgt	gtattcacca	aatacccagc	cgatatacca	60
gactatatca	agctgtcctt	tcctgagggc	tttacctggg	agcgaagcat	tccttttcaa	120
gaccaggcct	catgtaccgt	cacaagcgac	atcagtatga	aaagtaacaa	ctgtttctac	180
tataagattc	acttcaactg	cgagtttcct	cctaattggc	cagtgatgca	gaggaggata	240
cgaggatggg	agccatccac	tgaacgattg	tatcttcgcg	acggtgtgct	gacgggagat	300
atccacaaga	ctctgaaact	tagcgggtgg	ggctattaca	gagctgaatt	tagaagttct	360
tacaaaggca	agcactcgat	caacatgccg	gattttccatt	ttatagacca	ccgcattgag	420
attctgggca	acccagaaga	caagccgggtc	aagctgtacg	agattgctac	agctcgccat	480
catgggctga	agggtaaagc	tatccctaac	cctctcctcg	gactcgattc	tacgcgtacc	540
ggttag						546

<210> 86

<211> 181

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated

<400> 86

Met	Thr	Pro	Ala	Phe	Met	Tyr	Gly	Asn	Arg	Val	Phe	Thr	Lys	Tyr	Pro
1				5					10					15	
Ala	Asp	Ile	Pro	Asp	Tyr	Ile	Lys	Leu	Ser	Phe	Pro	Glu	Gly	Phe	Thr
			20					25					30		
Trp	Glu	Arg	Ser	Ile	Pro	Phe	Gln	Asp	Gln	Ala	Ser	Cys	Thr	Val	Thr
		35				40					45				
Ser	Asp	Ile	Ser	Met	Lys	Ser	Asn	Asn	Cys	Phe	Tyr	Tyr	Lys	Ile	His
	50					55				60					
Phe	Thr	Gly	Glu	Phe	Pro	Pro	Asn	Gly	Pro	Val	Met	Gln	Arg	Arg	Ile

65	Arg	Gly	Trp	Glu	Pro	70	Ser	Thr	Glu	Arg	Leu	75	Tyr	Leu	Arg	Asp	Gly	80	Val
					85						90						95		
	Leu	Thr	Gly	Asp	Ile	His	Lys	Thr	Leu	Lys	Leu	100	Ser	Gly	Gly	Gly	Gly	Tyr	
			105						110										
	Tyr	Arg	Ala	Glu	Phe	Arg	Ser	Ser	Tyr	Lys	Gly	115	Lys	His	Ser	Ile	Asn		
			120																
	Met	Pro	Asp	Phe	His	Phe	Ile	Asp	His	Arg	Ile	125	Glu	Ile	Leu	Gly	Asn		
		130					135						140						
	Pro	Glu	Asp	Lys	Pro	Val	Lys	Leu	Tyr	Glu	Ile	145	Ala	Thr	Ala	Arg	His		
						150					155								
	His	Gly	Leu	Lys	Gly	Lys	Pro	Ile	Pro	Asn	Pro	160	Leu	Leu	Gly	Leu	Asp		
				165						170									
	Ser	Thr	Arg	Thr	Gly														
				180															

<210> 87
 <211> 717
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 87																			
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gacaaattta	cgatcaaagg	ggaaggagga	ggataccctt	acgaaggagt	acagtttatg														120
tctcttgaag	tggtgaatgg	cgcgctctg	ccgttttctt	tcgatataat	gacaccagca														180
tttatgtatg	gaaaccgtgt	attcaccaaa	taccagccg	atataccaga	ctatatcaag														240
ctgtcctttc	ctgagggtt	tacctgggag	cgaataatga	cttttgagga	cgggggcgta														300
tggtgcatca	caagcgacat	cagtgtgaaa	ggtgactctt	tcttctatga	cattaagttc														360
actggcatga	actttcctcc	tcattggtcca	gtgatgcaga	gaaagacagt	aaaatgggag														420
ccatccactg	aaaacattta	tcctcgcgac	gaatttctgg	agggagatgt	caacatggct														480
ctgttgctta	aagatggcgg	ccattacaca	tgtgtcttta	aaactattta	cagatccaag														540
cactcgatca	acatgccgga	tttccatttt	atagaccacc	gcattgatat	tcggaagttc														600
gacgaaaatt	acatcaacgt	cgagcaggac	gagattgcta	cagctcgcca	tcattgggctg														660
aagggttaagc	ctatccctaa	ccctctcctc	ggactcgcatt	ctacgcgtac	cgggttag														717

<210> 88
 <211> 238
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 88																			
Met	Lys	Gly	Val	Lys	Glu	Val	Met	Lys	Ile	Ser	Leu	Glu	Met	Asp	Cys				
1				5				10					15						
Thr	Val	Asn	Gly	Asp	Lys	Phe	Thr	Ile	Lys	Gly	Glu	Gly	Gly	Gly	Tyr				
			20					25					30						
Pro	Tyr	Glu	Gly	Val	Gln	Phe	Met	Ser	Leu	Glu	Val	Val	Asn	Gly	Ala				
			35				40					45							
Pro	Leu	Pro	Phe	Ser	Phe	Asp	Ile	Leu	Thr	Pro	Ala	Phe	Met	Tyr	Gly				
	50					55					60								
Asn	Arg	Val	Phe	Thr	Lys	Tyr	Pro	Ala	Asp	Ile	Pro	Asp	Tyr	Ile	Lys				
65					70				75					80					
Leu	Ser	Phe	Pro	Glu	Gly	Phe	Thr	Trp	Glu	Arg	Ile	Met	Thr	Phe	Glu				
				85					90					95					
Asp	Gly	Gly	Val	Cys	Cys	Ile	Thr	Ser	Asp	Ile	Ser	Val	Lys	Gly	Asp				
			100					105					110						
Ser	Phe	Phe	Tyr	Asp	Ile	Lys	Phe	Thr	Gly	Met	Asn	Phe	Pro	Pro	His				
		115					120					125							
Gly	Pro	Val	Met	Gln	Arg	Lys	Thr	Val	Lys	Trp	Glu	Pro	Ser	Thr	Glu				

130	Asn	Ile	Tyr	Pro	Arg	Asp	Glu	Phe	Leu	Glu	Gly	Asp	Val	Asn	Met	Ala
145	Leu	Leu	Leu	Lys	Asp	Gly	Gly	His	Tyr	Thr	Cys	Val	Phe	Lys	Thr	Ile
	Tyr	Arg	Ser	Lys	His	Ser	Ile	Asn	Met	Pro	Asp	Phe	His	Phe	Ile	Asp
	His	Arg	Ile	Asp	Ile	Arg	Lys	Phe	Asp	Glu	Asn	Tyr	Ile	Asn	Val	Glu
	Gln	Asp	Glu	Ile	Ala	Thr	Ala	Arg	His	His	Gly	Leu	Lys	Gly	Lys	Pro
	Ile	Pro	Asn	Pro	Leu	Leu	Gly	Leu	Asp	Ser	Thr	Arg	Thr	Gly		
225																

<210> 89
 <211> 732
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 89	atgagtcatt	ccaagagtgt	gatcaaggac	gaaatgttca	tcaagattca	tctggaaggc	60
	acttttaacg	gccacaaatt	tacgatcaaa	ggggaaggag	gaggataccc	ttacgaagga	120
	gtacagttta	tgtctcttga	agtgggtgaat	ggcgcgcctc	tgccgttttc	tttcgatata	180
	ttgacaccag	catttcagta	tgaaaaccgt	acattcacca	aatacccaaa	agagatacca	240
	gactatttca	agcagacctt	tcctgaaggc	tatcactggg	agcgaaaaat	gacttatgag	300
	gacgggggca	taagtaacgt	ccgaagcgac	atcagtggtga	aagggtgactc	tttcttctat	360
	gacattaagt	tcactggcat	gaactttcct	cctcatggtc	cagtgatgca	gagaaagaca	420
	gtaaaaatggg	agccatccac	tgaaaacatt	tatcctcgcg	acgaatttct	ggaggggagat	480
	gtcaacatggg	ctctgttgct	taaagatggc	cgccatttga	gagttgactt	taacacttct	540
	tacataccca	agaagaaggt	cgagaatatg	cctgactacc	atittataga	ccaccgcatt	600
	gagattatgg	agcatgacga	ggactacaac	catgtcaagc	tgcgcgagat	tgctacagct	660
	cgccatcatg	ggctgaaggg	taagcctatc	cctaaccctc	tcctcggact	cgattctacg	720
	cgtaccggtt	ag					732

<210> 90
 <211> 243
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 90	Met	Ser	His	Ser	Lys	Ser	Val	Ile	Lys	Asp	Glu	Met	Phe	Ile	Lys	Ile
1	His	Leu	Glu	Gly	Thr	Phe	Asn	Gly	His	Lys	Phe	Thr	Ile	Lys	Gly	Glu
	Gly	Gly	Gly	Tyr	Pro	Tyr	Glu	Gly	Val	Gln	Phe	Met	Ser	Leu	Glu	Val
	Val	Asn	Gly	Ala	Pro	Leu	Pro	Phe	Ser	Phe	Asp	Ile	Leu	Thr	Pro	Ala
	Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	Lys	Glu	Ile	Pro
65	Asp	Tyr	Phe	Lys	Gln	Thr	Phe	Pro	Glu	Gly	Tyr	His	Trp	Glu	Arg	Lys
	Met	Thr	Tyr	Glu	Asp	Gly	Gly	Ile	Ser	Asn	Val	Arg	Ser	Asp	Ile	Ser
	Val	Lys	Gly	Asp	Ser	Phe	Phe	Tyr	Asp	Ile	Lys	Phe	Thr	Gly	Met	Asn
	Phe	Pro	Pro	His	Gly	Pro	Val	Met	Gln	Arg	Lys	Thr	Val	Lys	Trp	Glu
130																

Pro Ser Thr Glu Asn Ile Tyr Pro Arg Asp Glu Phe Leu Glu Gly Asp
145 150 155 160
Val Asn Met Ala Leu Leu Leu Lys Asp Gly Arg His Leu Arg Val Asp
165 170 175
Phe Asn Thr Ser Tyr Ile Pro Lys Lys Val Glu Asn Met Pro Asp
180 185 190
Tyr His Phe Ile Asp His Arg Ile Glu Ile Met Glu His Asp Glu Asp
195 200 205
Tyr Asn His Val Lys Leu Arg Glu Ile Ala Thr Ala Arg His His Gly
210 215 220
Leu Lys Gly Lys Pro Ile Pro Asn Pro Leu Leu Gly Leu Asp Ser Thr
225 230 235 240
Arg Thr Gly

<210> 91
<211> 723
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetically generated

<400> 91
atgaagggggg tgaaggaagt aatgaagatc agtctggaga tggactgcac tggttaacggc 60
gacaaatttta cgatcaaagg ggaaggagga ggataccctt acgaaggagt acagtttatg 120
tctcttgaag tggatgaatgg cgcgcctctg ccgttttctt tcgatatatt gacaccacaa 180
ttacagtatg gaaacaagtc attcgtcagc taccagccg atataccaga ctatatcaag 240
ctgtcctttc ctgagggctt taccitgggag cgaataatga cttttgagga cgggggcgta 300
tggtgcatca caagcgacat cagtgtgaaa ggtgactctt tctactataa gattcacttc 360
actggcgagt ttcctcctca tgggtccagt atgcagagaa agacagtaaa atgggagcca 420
tccactgaag taatgtatgt tgacgacaag agtgacgggt tgctgaaggg agatgtcaac 480
atggctctgt tgcttaaaga tggcggccat tacacatgtg tctttaaaac tatttacaga 540
tccaagaaga aggtcgagaa tatgcctgac taccatttta tagaccaccg cattgagatt 600
ctgggcaacc cagaagacaa gccgggtcaag ctgtacgaga ttgctacagc tcgccatcat 660
gggctgaagg gtaagcctat ccctaaccct ctctcggac tcgattctac gcgtaccggt 720
tag 723

<210> 92
<211> 240
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetically generated

<400> 92
Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Asp Cys
1 5 10 15
Thr Val Asn Gly Asp Lys Phe Thr Ile Lys Gly Glu Gly Gly Tyr
20 25 30
Pro Tyr Glu Gly Val Gln Phe Met Ser Leu Glu Val Val Asn Gly Ala
35 40 45
Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Gln Leu Gln Tyr Gly
50 55 60
Asn Lys Ser Phe Val Ser Tyr Pro Ala Asp Ile Pro Asp Tyr Ile Lys
65 70 75 80
Leu Ser Phe Pro Glu Gly Phe Thr Trp Glu Arg Ile Met Thr Phe Glu
85 90 95
Asp Gly Gly Val Cys Cys Ile Thr Ser Asp Ile Ser Val Lys Gly Asp
100 105 110
Ser Phe Tyr Tyr Lys Ile His Phe Thr Gly Glu Phe Pro Pro His Gly
115 120 125
Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro Ser Thr Glu Val

130	Met Tyr Val Asp Asp	135	Lys Ser Asp Gly Val	140	Leu Lys Gly Asp Val Asn
145	Met Ala Leu Leu Leu	150	Lys Asp Gly Gly His	155	Tyr Thr Cys Val Phe Lys
	165		170		175
Thr Ile Tyr Arg Ser	Lys Lys Lys Val	Glu Asn Met Pro Asp Tyr His			
	180		185		190
Phe Ile Asp His Arg Ile	Glu Ile	Leu Gly Asn Pro Glu Asp Lys Pro			
	195		200		205
Val Lys Leu Tyr Glu Ile	Ala Thr	Ala Arg His His Gly Leu Lys Gly			
	210		215		220
Lys Pro Ile Pro Asn Pro	Leu Leu Gly Leu Asp	Ser Thr Arg Thr Gly			
225	230		235		240

<210> 93
 <211> 732
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 93
 atgaaggggg tgaaggaagt aatgaagatc agtctggaga tggagggcgc tgttaacggc 60
 caccacttta cgatcaaagg ggaaggagga ggataccctt acgaaggagt acagtttatg 120
 tctcttgaag tggatgaatgg cgcgcctctg ccgttttctt tcgatatatatt gacaccagca 180
 tttatgtatg gaaaccgtgt attcaccaaa tacccaaaag agataccaga ctatttcaag 240
 cagacctttc ctgaaggcta tctactgggag cgaaaaatga cttatgagga cgggggcata 300
 agtaacgtcc gaagccacat caggatgaaa gaggaagagg agcggcattt ctactataag 360
 attcacttca ctggcgagtt tcctcctcat ggtccagtga tgcagagaaa gacagtaaaa 420
 tgggagccat ccactgaagt aatgtatggt gacgacaaga gtgacggtgt gctgaaggga 480
 gatgtcaaca tggctctgtt gcttaaagat ggccgccatt tgagagttga ctttaacact 540
 tcttacatac ccaagaagaa ggtcgagaat atgcctgact accattttat agaccaccgc 600
 attgagattc tgggcaaccc agaagacaag ccggtcaagc tgtacgagat tgctacagct 660
 cgccatcatg ggctgaaggg taagcctatc cctaaccctc tcctcggact cgattctacg 720
 cgtaccggtt ag 732

<210> 94
 <211> 243
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 94
 Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Glu Gly
 1 5 10 15
 Ala Val Asn Gly His His Phe Thr Ile Lys Gly Glu Gly Gly Tyr
 20 25 30
 Pro Tyr Glu Gly Val Gln Phe Met Ser Leu Glu Val Val Asn Gly Ala
 35 40 45
 Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Ala Phe Met Tyr Gly
 50 55 60
 Asn Arg Val Phe Thr Lys Tyr Pro Lys Glu Ile Pro Asp Tyr Phe Lys
 65 70 75 80
 Gln Thr Phe Pro Glu Tyr His Trp Glu Arg Lys Met Thr Tyr Glu
 85 90 95
 Asp Gly Gly Ile Ser Asn Val Arg Ser His Ile Arg Met Lys Glu Glu
 100 105 110
 Glu Glu Arg His Phe Tyr Tyr Lys Ile His Phe Thr Gly Glu Phe Pro
 115 120 125
 Pro His Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro Ser
 130 135 140

Thr	Glu	Val	Met	Tyr	Val	Asp	Asp	Lys	Ser	Asp	Gly	Val	Leu	Lys	Gly
145					150					155					160
Asp	Val	Asn	Met	Ala	Leu	Leu	Leu	Lys	Asp	Gly	Arg	His	Leu	Arg	Val
				165					170					175	
Asp	Phe	Asn	Thr	Ser	Tyr	Ile	Pro	Lys	Lys	Lys	Val	Glu	Asn	Met	Pro
			180					185					190		
Asp	Tyr	His	Phe	Ile	Asp	His	Arg	Ile	Glu	Ile	Leu	Gly	Asn	Pro	Glu
		195					200					205			
Asp	Lys	Pro	Val	Lys	Leu	Tyr	Glu	Ile	Ala	Thr	Ala	Arg	His	His	Gly
	210					215					220				
Leu	Lys	Gly	Lys	Pro	Ile	Pro	Asn	Pro	Leu	Leu	Gly	Leu	Asp	Ser	Thr
225					230				235						240
Arg	Thr	Gly													

<210> 95
 <211> 744
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 95																	
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acttttaacg	gccacaaatt	tgagatcgaa	ggggagggaa	acggaaaacc	ttacgcagga												120
gtacagttta	tgtctcttga	agtgggtgaat	ggcgcgcctc	tgacgttttc	tttcgatgta												180
ttgacaccag	catttcagta	tggaaccgt	acattcacca	aatacccaaa	agagatacca												240
gactatttca	agcagacctt	tcctgaaggc	tatcactggg	agcgaataat	gacttttgag												300
gacgggggcg	tatggtgcat	cacaagcgac	atcagtatga	aaagtaacaa	ctgtttctac												360
tataagattc	acttcactgg	cgagtttcct	cctcatggtc	cagtgatgca	gagaaagaca												420
gtaaaatggg	agccatccac	tgaaaacatt	tatcctcgcg	acgaatttct	ggagggagat												480
gtcaacatgg	ctctgttgct	taaagatggc	cgccatttga	gagttgactt	taacacttct												540
tacataccca	agaagaaggt	cgagaatatg	cctgactacc	attttataga	ccaccgcatt												600
gagattatgg	agcatgacga	ggactacaac	catgtcaagc	tgcgcgagtg	tgctgtagct												660
cgctatttct	tgctgcctga	gaagaacaag	ggtaagccta	tccctaacc	tctcctcgga												720
ctcgatttcta	cgcgtaaccg	ttag															744

<210> 96
 <211> 247
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 96																	
Met	Ser	His	Ser	Lys	Ser	Val	Ile	Lys	Asp	Glu	Met	Phe	Ile	Lys	Ile		
1				5					10					15			
His	Leu	Glu	Gly	Thr	Phe	Asn	Gly	His	Lys	Phe	Glu	Ile	Glu	Gly	Glu		
			20					25					30				
Gly	Asn	Gly	Lys	Pro	Tyr	Ala	Gly	Val	Gln	Phe	Met	Ser	Leu	Glu	Val		
		35					40					45					
Val	Asn	Gly	Ala	Pro	Leu	Thr	Phe	Ser	Phe	Asp	Val	Leu	Thr	Pro	Ala		
	50					55					60						
Phe	Gln	Tyr	Gly	Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	Lys	Glu	Ile	Pro		
65				70					75					80			
Asp	Tyr	Phe	Lys	Gln	Thr	Phe	Pro	Glu	Gly	Tyr	His	Trp	Glu	Arg	Ile		
			85						90					95			
Met	Thr	Phe	Glu	Asp	Gly	Gly	Val	Cys	Ile	Thr	Ser	Asp	Ile	Ser			
			100					105				110					
Met	Lys	Ser	Asn	Asn	Cys	Phe	Tyr	Tyr	Lys	Ile	His	Phe	Thr	Gly	Glu		
	115						120					125					
Phe	Pro	Pro	His	Gly	Pro	Val	Met	Gln	Arg	Lys	Thr	Val	Lys	Trp	Glu		

130	Pro Ser Thr Glu Asn Ile	135	Tyr Pro Arg Asp Glu	140	Phe Leu Glu Gly Asp
145	Val Asn Met Ala Leu	150	Leu Lys Asp Gly Arg	155	His Leu Arg Val Asp
	165		170		175
	Phe Asn Thr Ser Tyr Ile		Pro Lys Lys Lys Val		Glu Asn Met Pro Asp
	180		185		190
	Tyr His Phe Ile Asp His		Arg Ile Glu Ile Met		Glu His Asp Glu Asp
	195		200		205
	Tyr Asn His Val Lys Leu		Arg Glu Cys Ala Val		Ala Arg Tyr Ser Leu
	210		215		220
	Leu Pro Glu Lys Asn Lys		Gly Lys Pro Ile Pro		Asn Pro Leu Leu Gly
	225		230		235
	Leu Asp Ser Thr Arg		Thr Gly		240
	245				

<210> 97
 <211> 558
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 97	
atggaaaccg tgtattcacc aaatacccag gcaatatacc agactttttc aagcagaccg	60
tttctggggc gggatataccg ggagcgaaaa atgacttatg aggacggggg cataagtaac	120
gtccgaagcc acatcaggat gaaagaggaa gaggagcggc atttctacta taagattcac	180
ttcactggcg agtttctctc tcatggtcca gtgatgcaga gaaagacagt aaaatgggag	240
ccatccactg aagtaatgta tgttgacgac aagagtgcag gtgtgctgaa gggacatgac	300
gacatgactc tgcgggttga aggtggcggc tattacagag ctgaatttag aagttcttac	360
aaaggcaaga agaaggtcga gaatatgcct gactaccatt ttatagacca ccgcattgag	420
attctgggca acccagaaga caagccggtc aagctgtacg agtgtgctgt agctcgctat	480
tctctgctgc ctgagaagaa caagggtaa cctatcccta accctctcct cggactcgat	540
tctacgcgta ccggttag	558

<210> 98
 <211> 185
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 98	
Met Glu Thr Val Tyr Ser Pro Asn Thr Gln Ala Ile Tyr Gln Thr Phe	
1 5 10 15	
Ser Ser Arg Pro Phe Leu Gly Arg Val Tyr Arg Glu Arg Lys Met Thr	
20 25 30	
Tyr Glu Asp Gly Gly Ile Ser Asn Val Arg Ser His Ile Arg Met Lys	
35 40 45	
Glu Glu Glu Glu Arg His Phe Tyr Tyr Lys Ile His Phe Thr Gly Glu	
50 55 60	
Phe Pro Pro His Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu	
65 70 75	
Pro Ser Thr Glu Val Met Tyr Val Asp Asp Lys Ser Asp Gly Val Leu	
85 90 95	
Lys Gly His Asp Asp Met Thr Leu Arg Val Glu Gly Gly Gly Tyr Tyr	
100 105 110	
Arg Ala Glu Phe Arg Ser Ser Tyr Lys Gly Lys Lys Lys Val Glu Asn	
115 120 125	
Met Pro Asp Tyr His Phe Ile Asp His Arg Ile Glu Ile Leu Gly Asn	
130 135 140	
Pro Glu Asp Lys Pro Val Lys Leu Tyr Glu Cys Ala Val Ala Arg Tyr	

145		150		155		160									
Ser	Leu	Leu	Pro	Glu	Lys	Asn	Lys	Gly	Lys	Pro	Ile	Pro	Asn	Pro	Leu
		165					170							175	
Leu	Gly	Leu	Asp	Ser	Thr	Arg	Thr	Gly							
		180						185							

<210> 99
 <211> 720
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 99																	
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gagatcgaag	gggagggaaa	cggaaaacct	tacgcaggaa	caaattttgt	aaaacttgta		120										
gtgacgaaag	gcgggcctct	gacgttttct	ttcgatgtat	tgacaccaca	attacagtat		180										
ggaaacaagt	cattcgtcag	ctacccagcc	gatataccag	actatatcaa	gctgtccttt		240										
cctgagggct	ttacctggga	gcgaagcatt	ccttttcaag	accaggcctc	atgtaccgtc		300										
acaagcgaca	tcagtgtgaa	aggtgactct	ttctactata	agattcactt	cactggcgag		360										
tttcctcctc	atgggtccagt	gatgcagaga	aagacagtaa	aatgggagcc	atccactgaa		420										
cgattgtatc	ttcgcgacgg	tgtgctgacg	ggacatgacg	acatgactct	gcgggttgaa		480										
gggtggccgcc	atttgagagt	tgactttaac	acttcttaca	tacccaagaa	gaacctcacg		540										
cttccggatt	gcttctatta	tgtagacacc	aaacttgata	ttcgggaagt	cgacgaaaat		600										
tacatcaacg	tcgagcagga	cgagtgtgct	gtagctcgct	attctctgct	gcctgagaag		660										
aacaagggta	agcctatccc	taaccctctc	ctcggactcg	attctacgcy	taccggttag		720										

<210> 100
 <211> 239
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 100																	
Met	Lys	Glu	Val	Met	Lys	Ile	Ser	Leu	Glu	Met	Asp	Cys	Thr	Val	Asn		
1				5					10					15			
Gly	Asp	Lys	Phe	Glu	Ile	Glu	Gly	Glu	Gly	Asn	Gly	Lys	Pro	Tyr	Ala		
			20					25					30				
Gly	Thr	Asn	Phe	Val	Lys	Leu	Val	Val	Thr	Lys	Gly	Gly	Pro	Leu	Thr		
		35				40						45					
Phe	Ser	Phe	Asp	Val	Leu	Thr	Pro	Gln	Leu	Gln	Tyr	Gly	Asn	Lys	Ser		
	50				55						60						
Phe	Val	Ser	Tyr	Pro	Ala	Asp	Ile	Pro	Asp	Tyr	Ile	Lys	Leu	Ser	Phe		
65				70				75						80			
Pro	Glu	Gly	Phe	Thr	Trp	Glu	Arg	Ser	Ile	Pro	Phe	Gln	Asp	Gln	Ala		
			85					90					95				
Ser	Cys	Thr	Val	Thr	Ser	Asp	Ile	Ser	Val	Lys	Gly	Asp	Ser	Phe	Tyr		
		100						105					110				
Tyr	Lys	Ile	His	Phe	Thr	Gly	Glu	Phe	Pro	Pro	His	Gly	Pro	Val	Met		
		115					120					125					
Gln	Arg	Lys	Thr	Val	Lys	Trp	Glu	Pro	Ser	Thr	Glu	Arg	Leu	Tyr	Leu		
	130					135					140						
Arg	Asp	Gly	Val	Leu	Thr	Gly	His	Asp	Asp	Met	Thr	Leu	Arg	Val	Glu		
145				150				155						160			
Gly	Gly	Arg	His	Leu	Arg	Val	Asp	Phe	Asn	Thr	Ser	Tyr	Ile	Pro	Lys		
			165					170					175				
Lys	Asn	Leu	Thr	Leu	Pro	Asp	Cys	Phe	Tyr	Tyr	Val	Asp	Thr	Lys	Leu		
		180						185					190				
Asp	Ile	Arg	Lys	Phe	Asp	Glu	Asn	Tyr	Ile	Asn	Val	Glu	Gln	Asp	Glu		
	195					200						205					
Cys	Ala	Val	Ala	Arg	Tyr	Ser	Leu	Leu	Pro	Glu	Lys	Asn	Lys	Gly	Lys		

225

230

235

<210> 103

<211> 717

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated

<400> 103

atgaaggggg	tgaaggaagt	aatgaagatc	agtctggaga	tgaggggcgc	tgtaacggc	60
caccactttg	agatcgaagg	ggagggaaac	ggaaaacctt	acgcaggagt	acagtttatg	120
tctcttgaag	tggtgaatgg	cgcgcctctg	ccgttttctt	tcgatataatt	gacaccagca	180
tttatgtatg	gaaaccgtgt	attcaccaaa	tacccaaaag	agataccaga	ctatttcaag	240
cagacctttc	ctgaaggcta	tcactgggag	cgaataatga	cttttgagga	cgggggcgta	300
tggtgcatca	caagcgacat	cagtgtgaaa	ggtgactctt	tcttctatga	cattaagttc	360
actggcatga	actttcctcc	tcatggcca	gtgatgcaga	gaaagacagt	aaaatgggag	420
ccatccactg	aaaacattta	tcctcgcgac	gaatttcttg	agggagatgt	caacatggct	480
ctgttgctta	aagatggcgg	ccattacaca	tgtgtcttta	aaactattta	cagatccaag	540
cactcgatca	acatgccgga	tttccatttt	atagaccacc	gcattgagat	tatggagcat	600
gacgaggact	acaaccatgt	caagctgcgc	gagattgcta	cagctcgcca	tcatgggctg	660
aagggtaagc	ctatccctaa	ccctctcctc	ggactcgatt	ctacgcgtac	cggttag	717

<210> 104

<211> 238

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated

<400> 104

Met	Lys	Gly	Val	Lys	Glu	Val	Met	Lys	Ile	Ser	Leu	Glu	Met	Glu	Gly
1				5					10					15	
Ala	Val	Asn	Gly	His	His	Phe	Glu	Ile	Glu	Gly	Glu	Gly	Asn	Gly	Lys
		20						25					30		
Pro	Tyr	Ala	Gly	Val	Gln	Phe	Met	Ser	Leu	Glu	Val	Val	Asn	Gly	Ala
		35					40					45			
Pro	Leu	Pro	Phe	Ser	Phe	Asp	Ile	Leu	Thr	Pro	Ala	Phe	Met	Tyr	Gly
		50				55					60				
Asn	Arg	Val	Phe	Thr	Lys	Tyr	Pro	Lys	Glu	Ile	Pro	Asp	Tyr	Phe	Lys
65					70				75					80	
Gln	Thr	Phe	Pro	Glu	Gly	Tyr	His	Trp	Glu	Arg	Ile	Met	Thr	Phe	Glu
			85					90					95		
Asp	Gly	Gly	Val	Cys	Cys	Ile	Thr	Ser	Asp	Ile	Ser	Val	Lys	Gly	Asp
			100					105					110		
Ser	Phe	Phe	Tyr	Asp	Ile	Lys	Phe	Thr	Gly	Met	Asn	Phe	Pro	Pro	His
		115					120					125			
Gly	Pro	Val	Met	Gln	Arg	Lys	Thr	Val	Lys	Trp	Glu	Pro	Ser	Thr	Glu
		130				135					140				
Asn	Ile	Tyr	Pro	Arg	Asp	Glu	Phe	Leu	Glu	Gly	Asp	Val	Asn	Met	Ala
145					150				155					160	
Leu	Leu	Leu	Lys	Asp	Gly	Gly	His	Tyr	Thr	Cys	Val	Phe	Lys	Thr	Ile
			165					170						175	
Tyr	Arg	Ser	Lys	His	Ser	Ile	Asn	Met	Pro	Asp	Phe	His	Phe	Ile	Asp
			180					185					190		
His	Arg	Ile	Glu	Ile	Met	Glu	His	Asp	Glu	Asp	Tyr	Asn	His	Val	Lys
		195					200					205			
Leu	Arg	Glu	Ile	Ala	Thr	Ala	Arg	His	His	Gly	Leu	Lys	Gly	Lys	Pro
		210				215					220				
Ile	Pro	Asn	Pro	Leu	Leu	Gly	Leu	Asp	Ser	Thr	Arg	Thr	Gly		
225					230					235					

<210> 105
 <211> 723
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

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<400> 105
atgaagggggg tgaaggaagt aatgaagatc agtctggaga tggactgcac tggttaacggc    60
gacaaatttta cgatcaaagg ggaaggagga ggataccctt acgaaggaac acagacttta    120
catcttacag agaaggaagg caagcctctg ccgttttctt tcgatatatt gacaccacaa    180
ttacagtatg gaaacaagtc attcgtcagc taccagccg atataccaga ctatatcaag    240
ctgtcctttc ctgagggtt tacctgggag cgaagcattc cttttcaaga ccaggcctca    300
tgtaccgtca caagccacat caggatgaaa gaggaagagg agcggcattt ctactataag    360
attcacttta ctggcgagtt tcttcctaatt ggtccagtga tgcagaggag gatacgagga    420
tgggagccat ccaactgaaa catttatcct cgcgacgaat ttctggaggg agatatccac    480
aagactctga aacttagcgg tggccgccat ttgagagttg actttaacac ttcttacata    540
cccaagcact cgatcaacat gccggatttc cattttatag accaccgat tgatattcgg    600
aagttcgacg aaaattacat caacgtcgag caggacgaga ttgctacagc tcgccatcat    660
gggctgaagg gtaagcctat ccctaaccct ctcctcggac tcgattctac gcgtaccggt    720
tag                                                                    723
  
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<210> 106
 <211> 240
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

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<400> 106
Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Asp Cys
 1          5          10          15
Thr Val Asn Gly Asp Lys Phe Thr Ile Lys Gly Glu Gly Gly Tyr
 20          25          30
Pro Tyr Glu Gly Thr Gln Thr Leu His Leu Thr Glu Lys Glu Gly Lys
 35          40          45
Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Gln Leu Gln Tyr Gly
 50          55          60
Asn Lys Ser Phe Val Ser Tyr Pro Ala Asp Ile Pro Asp Tyr Ile Lys
 65          70          75          80
Leu Ser Phe Pro Glu Gly Phe Thr Trp Glu Arg Ser Ile Pro Phe Gln
 85          90          95
Asp Gln Ala Ser Cys Thr Val Thr Ser His Ile Arg Met Lys Glu Glu
100          105          110
Glu Glu Arg His Phe Tyr Tyr Lys Ile His Phe Thr Gly Glu Phe Pro
115          120          125
Pro Asn Gly Pro Val Met Gln Arg Arg Ile Arg Gly Trp Glu Pro Ser
130          135          140
Thr Glu Asn Ile Tyr Pro Arg Asp Glu Phe Leu Glu Gly Asp Ile His
145          150          155          160
Lys Thr Leu Lys Leu Ser Gly Gly Arg His Leu Arg Val Asp Phe Asn
165          170          175
Thr Ser Tyr Ile Pro Lys His Ser Ile Asn Met Pro Asp Phe His Phe
180          185          190
Ile Asp His Arg Ile Asp Ile Arg Lys Phe Asp Glu Asn Tyr Ile Asn
195          200          205
Val Glu Gln Asp Glu Ile Ala Thr Ala Arg His His Gly Leu Lys Gly
210          215          220
Lys Pro Ile Pro Asn Pro Leu Leu Gly Leu Asp Ser Thr Arg Thr Gly
225          230          235          240
  
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<210> 107

<211> 720
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 107
 atgaaggggg tgaaggaagt aatgaagatc agtctggaga tggactgcac tgttaacggc 60
 gacaaattta cgatcaaagg ggaaggagga ggataccctt acgaaggaac acagacttta 120
 catcttacag agaaggaagg caagcctctg acgttttctt tcgatgtatt gacaccagca 180
 tttatgtatg gaaaccgtgt attcaccaaa tacccaaaag agataccaga ctatttcaag 240
 cagacctttc ctgaaggcta tcactgggag cgaataatga cttttgagga cgggggcgta 300
 tgttgcattca caagccacat caggatgaaa gaggaagagg agcggcattt ctactataag 360
 attcacttca ctggcgagtt tcctcctaatt ggtccagtga tgcagaggag gatacgagga 420
 tgggagccat ccactgaaaa catttatcct cgcgacgaat ttctggaggg acatgacgac 480
 atgactctgc ggggtgaagg tggcggctat tacagagctg aatttagaag ttcttacaaa 540
 ggcaagcact cgatcaacat gccggatttc cattttatag accaccgcat tgagattctg 600
 ggcaacccag aagacaagcc ggtcaagctg tacgagattg ctacagctcg ccatcatggg 660
 ctgaagggta agcctatccc taaccctctc ctcggactcg attctacgcg taccggttag 720

<210> 108
 <211> 239
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 108
 Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Asp Cys
 1 5 10 15
 Thr Val Asn Gly Asp Lys Phe Thr Ile Lys Gly Glu Gly Gly Gly Tyr
 20 25 30
 Pro Tyr Glu Gly Thr Gln Thr Leu His Leu Thr Glu Lys Glu Gly Lys
 35 40 45
 Pro Leu Thr Phe Ser Phe Asp Val Leu Thr Pro Ala Phe Met Tyr Gly
 50 55 60
 Asn Arg Val Phe Thr Lys Tyr Pro Lys Glu Ile Pro Asp Tyr Phe Lys
 65 70 75 80
 Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Ile Met Thr Phe Glu
 85 90 95
 Asp Gly Gly Val Cys Cys Ile Thr Ser His Ile Arg Met Lys Glu Glu
 100 105 110
 Glu Glu Arg His Phe Tyr Tyr Lys Ile His Phe Thr Gly Glu Phe Pro
 115 120 125
 Pro Asn Gly Pro Val Met Gln Arg Arg Ile Arg Gly Trp Glu Pro Ser
 130 135 140
 Thr Glu Asn Ile Tyr Pro Arg Asp Glu Phe Leu Glu Gly His Asp Asp
 145 150 155 160
 Met Thr Leu Arg Val Glu Gly Gly Gly Tyr Tyr Arg Ala Glu Phe Arg
 165 170 175
 Ser Ser Tyr Lys Gly Lys His Ser Ile Asn Met Pro Asp Phe His Phe
 180 185 190
 Ile Asp His Arg Ile Glu Ile Leu Gly Asn Pro Glu Asp Lys Pro Val
 195 200 205
 Lys Leu Tyr Glu Ile Ala Thr Ala Arg His His Gly Leu Lys Gly Lys
 210 215 220
 Pro Ile Pro Asn Pro Leu Leu Gly Leu Asp Ser Thr Arg Thr Gly
 225 230 235

<210> 109
 <211> 747
 <212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated

<400> 109

atgagtcatt	ccaagagtgt	gatcaaggac	gaaatgttca	tcaagattca	tctggaaggc	60
acttttaacg	gccacaaatt	tacgatcaaa	ggggaaggag	gaggataccc	ttacgaagga	120
gtacagttta	tgtctcttga	agtgggtgaat	ggcgcgcctc	tgccgtttgg	ttggcatata	180
ttgtcaccag	catttatgta	tggaaaccgt	gtattcacca	aatacccaaa	agagatacca	240
gactattttca	agcagacctt	tcctgaaggc	tatcactggg	agcgaataat	gacttttgag	300
gacggggggcg	tatgttgcat	cacaagcgac	atcagtgtga	aagggtgactc	tttcttctat	360
gacattaagt	tcactggcat	gaactttcct	cctaattggtc	cagtgatgca	gaggaggata	420
cgaggatggg	agccatccac	tgaagtaatg	tatgttgacg	acaagagtga	cggtgtgctg	480
aaggggacatg	acgacatgac	tctgcggtt	gaagggtggcg	gccattacac	atgtgtcttt	540
aaaactatatt	acagatccaa	gcactcgatc	aacatgcccg	atttccattt	tatagaccac	600
cgcatttgaga	ttctgggcaa	cccagaagac	aagccgggtca	agctgtacga	gtgtgctgta	660
gctcgctatt	ctctgctgcc	tgagaagaac	aagggtgaagc	ctatccctaa	ccctctcctc	720
ggactcgatt	ctacgcgtac	cggttag				747

<210> 110

<211> 248

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated

<400> 110

Met	Ser	His	Ser	Lys	Ser	Val	Ile	Lys	Asp	Glu	Met	Phe	Ile	Lys	Ile
1				5					10					15	
His	Leu	Glu	Gly	Thr	Phe	Asn	Gly	His	Lys	Phe	Thr	Ile	Lys	Gly	Glu
			20					25					30		
Gly	Gly	Gly	Tyr	Pro	Tyr	Glu	Gly	Val	Gln	Phe	Met	Ser	Leu	Glu	Val
		35					40					45			
Val	Asn	Gly	Ala	Pro	Leu	Pro	Phe	Gly	Trp	His	Ile	Leu	Ser	Pro	Ala
	50					55					60				
Phe	Met	Tyr	Gly	Asn	Arg	Val	Phe	Thr	Lys	Tyr	Pro	Lys	Glu	Ile	Pro
65				70					75					80	
Asp	Tyr	Phe	Lys	Gln	Thr	Phe	Pro	Glu	Gly	Tyr	His	Trp	Glu	Arg	Ile
			85						90					95	
Met	Thr	Phe	Glu	Asp	Gly	Gly	Val	Cys	Cys	Ile	Thr	Ser	Asp	Ile	Ser
			100					105					110		
Val	Lys	Gly	Asp	Ser	Phe	Phe	Tyr	Asp	Ile	Lys	Phe	Thr	Gly	Met	Asn
		115					120					125			
Phe	Pro	Pro	Asn	Gly	Pro	Val	Met	Gln	Arg	Arg	Ile	Arg	Gly	Trp	Glu
	130					135					140				
Pro	Ser	Thr	Glu	Val	Met	Tyr	Val	Asp	Asp	Lys	Ser	Asp	Gly	Val	Leu
145					150					155					160
Lys	Gly	His	Asp	Asp	Met	Thr	Leu	Arg	Val	Glu	Gly	Gly	Gly	His	Tyr
			165						170					175	
Thr	Cys	Val	Phe	Lys	Thr	Ile	Tyr	Arg	Ser	Lys	His	Ser	Ile	Asn	Met
			180					185					190		
Pro	Asp	Phe	His	Phe	Ile	Asp	His	Arg	Ile	Glu	Ile	Leu	Gly	Asn	Pro
	195						200					205			
Glu	Asp	Lys	Pro	Val	Lys	Leu	Tyr	Glu	Cys	Ala	Val	Ala	Arg	Tyr	Ser
	210					215					220				
Leu	Leu	Pro	Glu	Lys	Asn	Lys	Gly	Lys	Pro	Ile	Pro	Asn	Pro	Leu	Leu
225					230					235					240
Gly	Leu	Asp	Ser	Thr	Arg	Thr	Gly								
				245											

<210> 111

<211> 561

<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetically generated

<400> 111
ttgacaccac aattacagta tggaaacaag tcattcgtca gctacccagc cgatatacca 60
gactatatca agctgtcctt tcctgagggc tttacctggg agcgaataat gacttttgag 120
gacgggggcg tatgttgcac cacaagcgac atcagtgtga aagggtgactc tttctactat 180
aagattcact tcactggcga gtttcctcct aatggtccag tgatgcagag gaggatacga 240
ggatgggagc catccactga aaacatttat cctcgcgacg aatttctgga gggacatgac 300
gacatgactc tgcgggttga aggtggcggc cattacacat gtgtctttaa aactatttac 360
agatccaaga agaaggtcga gaatatgcct gactaccatt ttatagacca ccgcattgag 420
attatggagc atgacgagga ctacaacat gtcaagctgc gcgagtgtgc tgtagctcgc 480
tattctctgc tgcctgagaa gaacaaggt aagcctatcc ctaaccctct cctcggactc 540
gattctacgc gtaccggtta g 561

<210> 112
<211> 186
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetically generated

<400> 112
Met Thr Pro Gln Leu Gln Tyr Gly Asn Lys Ser Phe Val Ser Tyr Pro
1 5 10 15
Ala Asp Ile Pro Asp Tyr Ile Lys Leu Ser Phe Pro Glu Gly Phe Thr
20 25 30
Trp Glu Arg Ile Met Thr Phe Glu Asp Gly Gly Val Cys Cys Ile Thr
35 40 45
Ser Asp Ile Ser Val Lys Gly Asp Ser Phe Tyr Tyr Lys Ile His Phe
50 55 60
Thr Gly Glu Phe Pro Pro Asn Gly Pro Val Met Gln Arg Arg Ile Arg
65 70 75 80
Gly Trp Glu Pro Ser Thr Glu Asn Ile Tyr Pro Arg Asp Glu Phe Leu
85 90 95
Glu Gly His Asp Asp Met Thr Leu Arg Val Glu Gly Gly His Tyr
100 105 110
Thr Cys Val Phe Lys Thr Ile Tyr Arg Ser Lys Lys Lys Val Glu Asn
115 120 125
Met Pro Asp Tyr His Phe Ile Asp His Arg Ile Glu Ile Met Glu His
130 135 140
Asp Glu Asp Tyr Asn His Val Lys Leu Arg Glu Cys Ala Val Ala Arg
145 150 155 160
Tyr Ser Leu Leu Pro Glu Lys Asn Lys Gly Lys Pro Ile Pro Asn Pro
165 170 175
Leu Leu Gly Leu Asp Ser Thr Arg Thr Gly
180 185

<210> 113
<211> 720
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetically generated

<400> 113
atgaaggggg tgaaggaagt aatgaagatc agtctggaga tggactgcac tgtaacggc 60
gacaaattta cgatcaaagg ggaaggagga ggataccctt acgaaggagt acagtttatg 120
tctcttgaag tggatgaatg cgcgcctctg ccgtttgggt ggcatataatt gtcaccagca 180

tttatgtatg	gaaaccgtgt	attcaccaaa	tacccaaaag	agataccaga	ctattttcaag	240
cagacctttc	ctgaaggcta	tcactgggag	cgaataatga	cttttgagga	cgggggcgta	300
tgttgcatca	caagcgacat	cagtatgaaa	agtaacaact	gtttcttcta	tgacattaag	360
ttcactggca	tgaactttcc	tcctaattgg	ccagtgatgc	agaggaggat	acgaggatgg	420
gagccatcca	ctgaacgatt	gtatcttcgc	gacgggtgtc	tgacgggaga	tgtcaacatg	480
gctctgttgc	ttaaagatgg	ccgccatttg	agagttgact	ttaacacttc	ttacataccc	540
aagaagaagg	tcgagaatat	gcctgactac	cattttatag	accaccgcat	tgagattctg	600
ggcaacccag	aagacaagcc	ggccaagctg	tacgagattg	ctacagctcg	ccatcatggg	660
ctgaagggta	agcctatccc	taaccctctc	ctcggactcg	attctacgcg	taccggttag	720

<210> 114
 <211> 239
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 114	
Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Asp Cys	
1 5 10 15	
Thr Val Asn Gly Asp Lys Phe Thr Ile Lys Gly Glu Gly Gly Tyr	
20 25 30	
Pro Tyr Glu Gly Val Gln Phe Met Ser Leu Glu Val Val Asn Gly Ala	
35 40 45	
Pro Leu Pro Phe Gly Trp His Ile Leu Ser Pro Ala Phe Met Tyr Gly	
50 55 60	
Asn Arg Val Phe Thr Lys Tyr Pro Lys Glu Ile Pro Asp Tyr Phe Lys	
65 70 75 80	
Gln Thr Phe Pro Glu Tyr His Trp Glu Arg Ile Met Thr Phe Glu	
85 90 95	
Asp Gly Gly Val Cys Cys Ile Thr Ser Asp Ile Ser Met Lys Ser Asn	
100 105 110	
Asn Cys Phe Phe Tyr Asp Ile Lys Phe Thr Gly Met Asn Phe Pro Pro	
115 120 125	
Asn Gly Pro Val Met Gln Arg Ile Arg Gly Trp Glu Pro Ser Thr	
130 135 140	
Glu Arg Leu Tyr Leu Arg Asp Gly Val Leu Thr Gly Asp Val Asn Met	
145 150 155 160	
Ala Leu Leu Leu Lys Asp Gly Arg His Leu Arg Val Asp Phe Asn Thr	
165 170 175	
Ser Tyr Ile Pro Lys Lys Lys Val Glu Asn Met Pro Asp Tyr His Phe	
180 185 190	
Ile Asp His Arg Ile Glu Ile Leu Gly Asn Pro Glu Asp Lys Pro Val	
195 200 205	
Lys Leu Tyr Glu Ile Ala Thr Ala Arg His His Gly Leu Lys Gly Lys	
210 215 220	
Pro Ile Pro Asn Pro Leu Leu Gly Leu Asp Ser Thr Arg Thr Gly	
225 230 235	

<210> 115
 <211> 723
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 115	
atgaaggggg tgaaggaagt aatgaagatc agtctggaga tggactgcac tgttaacggc	60
gacaaattta cgatcaaagg ggaaggagga ggataaccctt acgaaggagt acagtttatg	120
tctcttgaag tggatgaatgg cgcgcctctg acgttttctt tcgatgtatt gacaccagca	180
tttcagtatg gaaaccgtac attcaccaaa tacccaaaag agataccaga ctatttcaag	240
cagacctttc ctgaaggcta tcactgggag cgaataatga cttttgagga cgggggcgta	300

tgttgcacatca	caagcgacat	cagtgtgaaa	ggtgactcctt	tcttctatga	cattaagttc	360
actggcatga	actttcctcc	taatgggtcca	gtgatgcaga	ggaggatacg	aggatgggag	420
ccatccactg	aacgattgta	tcttcgcgac	ggtgtgctga	cgggagatgt	caacatggct	480
ctgttgctta	aagatggcgg	ccattacaca	tgtgtcttta	aaactattta	cagatccaag	540
aagaagggtcg	agaatatgcc	tgactaccat	tttatagacc	accgcattga	gattatggag	600
catgacgagg	actacaacca	tgtcaagctg	cgcgagattg	ctacagctcg	ccatcatggg	660
ctgaagggtgta	agcctatccc	taaccctctc	ctcggactcg	attctacgcg	taccggtagc	720
tcg						723

<210> 116
 <211> 241
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 116
 Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Asp Cys
 1 5 10 15
 Thr Val Asn Gly Asp Lys Phe Thr Ile Lys Gly Glu Gly Gly Tyr
 20 25 30
 Pro Tyr Glu Gly Val Gln Phe Met Ser Leu Glu Val Val Asn Gly Ala
 35 40 45
 Pro Leu Thr Phe Ser Phe Asp Val Leu Thr Pro Ala Phe Gln Tyr Gly
 50 55 60
 Asn Arg Thr Phe Thr Lys Tyr Pro Lys Glu Ile Pro Asp Tyr Phe Lys
 65 70 75 80
 Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Ile Met Thr Phe Glu
 85 90 95
 Asp Gly Gly Val Cys Cys Ile Thr Ser Asp Ile Ser Val Lys Gly Asp
 100 105 110
 Ser Phe Phe Tyr Asp Ile Lys Phe Thr Gly Met Asn Phe Pro Pro Asn
 115 120 125
 Gly Pro Val Met Gln Arg Arg Ile Arg Gly Trp Glu Pro Ser Thr Glu
 130 135 140
 Arg Leu Tyr Leu Arg Asp Gly Val Leu Thr Gly Asp Val Asn Met Ala
 145 150 155 160
 Leu Leu Leu Lys Asp Gly Gly His Tyr Thr Cys Val Phe Lys Thr Ile
 165 170 175
 Tyr Arg Ser Lys Lys Lys Val Glu Asn Met Pro Asp Tyr His Phe Ile
 180 185 190
 Asp His Arg Ile Glu Ile Met Glu His Asp Glu Asp Tyr Asn His Val
 195 200 205
 Lys Leu Arg Glu Ile Ala Thr Ala Arg His His Gly Leu Lys Gly Lys
 210 215 220
 Pro Ile Pro Asn Pro Leu Leu Gly Leu Asp Ser Thr Arg Thr Gly Ser
 225 230 235 240
 Ser

<210> 117
 <211> 717
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 117						
atgaaggggg	tgaaggaagt	aatgaagatc	agtctggaga	tggactgcac	tgtaacggc	60
gacaaattta	cgatcaaagg	ggaaggagga	ggataccctt	acgaaggagt	acagtttatg	120
tctcttgaag	tggtgaatgg	cgcgcctctg	acgttttctt	tcgatgtatt	gacaccagca	180
tttatgtatg	gaaaccgtgt	attcaccaaa	tacccaaaag	agataccaga	ctatttcaag	240

cagacctttc	ctgaaggcta	tcactgggag	cgaataatga	cttttgagga	cgggggcgta	300
tgttgcatca	caagcgacat	cagtgtgaaa	ggtagactctt	tctactataa	gattcacttc	360
actggcgagt	ttcctcctca	tggtccagtg	atgcagagaa	agacagtaaa	atgggagcca	420
tccactgaac	gattgtatct	tcgcgacggg	gtgctgacgg	gacatgacga	catgactctg	480
cggggtgaag	gtggcggcca	ttacacatgt	gtctttaaaa	ctatttacag	atccaagaag	540
aagggtcgaga	atatgcctga	ctaccatttt	atagaccacc	gcattgagat	tatggagcat	600
gacgaggact	acaaccatgt	caagctgcgc	gagattgcta	cagctcgcca	tcatgggctg	660
aagggtgaagc	ctatccctaa	ccctctcctc	ggactcgatt	ctacgcgtac	cgggttag	717

<210> 118

<211> 238

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated

<400> 118

Met	Lys	Gly	Val	Lys	Glu	Val	Met	Lys	Ile	Ser	Leu	Glu	Met	Asp	Cys
1				5				10						15	
Thr	Val	Asn	Gly	Asp	Lys	Phe	Thr	Ile	Lys	Gly	Glu	Gly	Gly	Gly	Tyr
		20						25					30		
Pro	Tyr	Glu	Gly	Val	Gln	Phe	Met	Ser	Leu	Glu	Val	Val	Asn	Gly	Ala
		35					40					45			
Pro	Leu	Thr	Phe	Ser	Phe	Asp	Val	Leu	Thr	Pro	Ala	Phe	Met	Tyr	Gly
	50					55					60				
Asn	Arg	Val	Phe	Thr	Lys	Tyr	Pro	Lys	Glu	Ile	Pro	Asp	Tyr	Phe	Lys
65					70					75					80
Gln	Thr	Phe	Pro	Glu	Gly	Tyr	His	Trp	Glu	Arg	Ile	Met	Thr	Phe	Glu
				85				90						95	
Asp	Gly	Gly	Val	Cys	Cys	Ile	Thr	Ser	Asp	Ile	Ser	Val	Lys	Gly	Asp
			100					105					110		
Ser	Phe	Tyr	Tyr	Lys	Ile	His	Phe	Thr	Gly	Glu	Phe	Pro	Pro	His	Gly
		115					120					125			
Pro	Val	Met	Gln	Arg	Lys	Thr	Val	Lys	Trp	Glu	Pro	Ser	Thr	Glu	Arg
		130				135					140				
Leu	Tyr	Leu	Arg	Asp	Gly	Val	Leu	Thr	Gly	His	Asp	Asp	Met	Thr	Leu
145					150					155					160
Arg	Val	Glu	Gly	Gly	Gly	His	Tyr	Thr	Cys	Val	Phe	Lys	Thr	Ile	Tyr
				165				170						175	
Arg	Ser	Lys	Lys	Lys	Val	Glu	Asn	Met	Pro	Asp	Tyr	His	Phe	Ile	Asp
			180					185					190		
His	Arg	Ile	Glu	Ile	Met	Glu	His	Asp	Glu	Asp	Tyr	Asn	His	Val	Lys
		195					200					205			
Leu	Arg	Glu	Ile	Ala	Thr	Ala	Arg	His	His	Gly	Leu	Lys	Gly	Lys	Pro
	210					215					220				
Ile	Pro	Asn	Pro	Leu	Leu	Gly	Leu	Asp	Ser	Thr	Arg	Thr	Gly		
225					230					235					

<210> 119

<211> 723

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated

<400> 119

atgaaggggg	tgaaggaagt	aatgaagatc	agtctggaga	tggactgcac	tggttaacggc	60
gacaaattta	cgatcaaagg	ggaaggagga	ggataccctt	acgaaggagt	acagtttatg	120
tctcttgaag	tggtgaatgg	cgcgcctctg	ccgttttctt	tcgatataat	gacaccagca	180
tttatgtatg	gaaaccgtgt	attcaccaaa	tacccaaaag	agataccaga	ctatttcaag	240
cagacctttc	ctgaaggcta	tcactgggag	cgaataatga	cttttgagga	cgggggcgta	300
tgttgcatca	caagcgacat	cagtatgaaa	agtaacaact	gtttcttcta	tgacattaag	360

ttcactggca	tgaactttcc	tcctaattggt	ccagtgatgc	agaggaggat	acgaggatgg	420
gagccatcca	ctgaaaacat	ttatcctcgc	gacgaatttc	tggagggaga	tgtcaacatg	480
gctctgttgc	ttaaagatgg	cggctattac	agagctgaat	ttagaagttc	ttacaaaggc	540
aagaagaagg	tcgagaatat	gcctgactac	catitttatag	accaccgcat	tgagattatg	600
gagcatgacg	aggactacaa	ccatgtcaag	ctgcgcgaga	ttgctacagc	tcgccatcat	660
gggctgaagg	gtaagcctat	ccctaaccct	ctcctcggac	tcgattctac	gcgtaccggt	720
tag						723

<210> 120
 <211> 240
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetically generated

<400> 120

Met	Lys	Gly	Val	Lys	Glu	Val	Met	Lys	Ile	Ser	Leu	Glu	Met	Asp	Cys
1				5				10						15	
Thr	Val	Asn	Gly	Asp	Lys	Phe	Thr	Ile	Lys	Gly	Glu	Gly	Gly	Gly	Tyr
			20					25					30		
Pro	Tyr	Glu	Gly	Val	Gln	Phe	Met	Ser	Leu	Glu	Val	Val	Asn	Gly	Ala
		35					40					45			
Pro	Leu	Pro	Phe	Ser	Phe	Asp	Ile	Leu	Thr	Pro	Ala	Phe	Met	Tyr	Gly
	50					55					60				
Asn	Arg	Val	Phe	Thr	Lys	Tyr	Pro	Lys	Glu	Ile	Pro	Asp	Tyr	Phe	Lys
65					70				75						80
Gln	Thr	Phe	Pro	Glu	Gly	Tyr	His	Trp	Glu	Arg	Ile	Met	Thr	Phe	Glu
			85					90						95	
Asp	Gly	Gly	Val	Cys	Cys	Ile	Thr	Ser	Asp	Ile	Ser	Met	Lys	Ser	Asn
			100					105					110		
Asn	Cys	Phe	Phe	Tyr	Asp	Ile	Lys	Phe	Thr	Gly	Met	Asn	Phe	Pro	Pro
		115					120					125			
Asn	Gly	Pro	Val	Met	Gln	Arg	Arg	Ile	Arg	Gly	Trp	Glu	Pro	Ser	Thr
	130					135					140				
Glu	Asn	Ile	Tyr	Pro	Arg	Asp	Glu	Phe	Leu	Glu	Gly	Asp	Val	Asn	Met
145					150					155					160
Ala	Leu	Leu	Leu	Lys	Asp	Gly	Gly	Tyr	Tyr	Arg	Ala	Glu	Phe	Arg	Ser
			165					170						175	
Ser	Tyr	Lys	Gly	Lys	Lys	Lys	Val	Glu	Asn	Met	Pro	Asp	Tyr	His	Phe
		180						185					190		
Ile	Asp	His	Arg	Ile	Glu	Ile	Met	Glu	His	Asp	Glu	Asp	Tyr	Asn	His
		195					200					205			
Val	Lys	Leu	Arg	Glu	Ile	Ala	Thr	Ala	Arg	His	His	Gly	Leu	Lys	Gly
	210					215					220				
Lys	Pro	Ile	Pro	Asn	Pro	Leu	Leu	Gly	Leu	Asp	Ser	Thr	Arg	Thr	Gly
225					230					235					240

<210> 121
 <211> 639
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetically generated

<400> 121

atgatgaccg	atctgcatct	ggactgcact	gttaacggcg	acaaatttac	gatcaaaggg	60
gaaggaggag	gataccctta	cgaaggaaca	aattttgtaa	aacttgtagt	gacgaaaggc	120
gggcctctgc	cgtttggttg	gcataatatt	tcaccagcat	ttatgtatgg	aaaccgtgta	180
ttcaccaaata	acccagccga	tataccagac	tatatcaagc	tgctctttcc	tgagggtttt	240
acctgggagc	gaagcattcc	ttttcaagac	caggcctcat	gtaccgtcac	aagcgacatc	300
agtgtgaaag	gtgactcttt	cttctatgac	attaagtcca	ctggcatgaa	ctttcctcct	360
aatgggtccag	tgatgcagag	gaggatacga	ggatggggagc	catccactga	acgattgtat	420

cttcgcgacg	gtgtgctgac	gggacatgac	gacatgactc	tgcggggtga	aggtggcggc	480
cattacacat	gtgtctttta	aactattttac	agatccaagc	actcgatcaa	catgccggat	540
ttccatttta	tagaccaccg	cattgatatt	cggaagttcg	acgaaaatta	catcaacgtc	600
agcaggacga	gattgctaca	gctcgccatc	atgggctga			639

<210> 122
 <211> 212
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 122

Met	Met	Thr	Asp	Leu	His	Leu	Asp	Cys	Thr	Val	Asn	Gly	Asp	Lys	Phe
1				5					10					15	
Thr	Ile	Lys	Gly	Glu	Gly	Gly	Gly	Tyr	Pro	Tyr	Glu	Gly	Thr	Asn	Phe
			20					25					30		
Val	Lys	Leu	Val	Val	Thr	Lys	Gly	Gly	Pro	Leu	Pro	Phe	Gly	Trp	His
		35					40					45			
Ile	Leu	Ser	Pro	Ala	Phe	Met	Tyr	Gly	Asn	Arg	Val	Phe	Thr	Lys	Tyr
	50					55					60				
Pro	Ala	Asp	Ile	Pro	Asp	Tyr	Ile	Lys	Leu	Ser	Phe	Pro	Glu	Gly	Phe
65					70				75					80	
Thr	Trp	Glu	Arg	Ser	Ile	Pro	Phe	Gln	Asp	Gln	Ala	Ser	Cys	Thr	Val
			85					90					95		
Thr	Ser	Asp	Ile	Ser	Val	Lys	Gly	Asp	Ser	Phe	Phe	Tyr	Asp	Ile	Lys
		100					105						110		
Phe	Thr	Gly	Met	Asn	Phe	Pro	Pro	Asn	Gly	Pro	Val	Met	Gln	Arg	Arg
		115					120					125			
Ile	Arg	Gly	Trp	Glu	Pro	Ser	Thr	Glu	Arg	Leu	Tyr	Leu	Arg	Asp	Gly
	130					135					140				
Val	Leu	Thr	Gly	His	Asp	Asp	Met	Thr	Leu	Arg	Val	Glu	Gly	Gly	Gly
145					150				155					160	
His	Tyr	Thr	Cys	Val	Phe	Lys	Thr	Ile	Tyr	Arg	Ser	Lys	His	Ser	Ile
			165					170					175		
Asn	Met	Pro	Asp	Phe	His	Phe	Ile	Asp	His	Arg	Ile	Asp	Ile	Arg	Lys
			180					185					190		
Phe	Asp	Glu	Asn	Tyr	Ile	Asn	Val	Ser	Arg	Thr	Arg	Leu	Leu	Gln	Leu
	195						200					205			
Ala	Ile	Met	Gly												
	210														

<210> 123
 <211> 714
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 123

atgaaggggg	tgaaggaagt	aatgaagatc	agtctggaga	tggaggggcg	tggttaacggc	60
caccacttta	cgatcaaagg	ggaaggagga	ggataccctt	acgaaggagt	acagtttatg	120
tctcttgaag	tggtgaatgg	cgcgctctg	acgttttctt	tcgatgtatt	gacaccagca	180
tttatgtatg	gaaaccgtgt	attcaccaaa	tacccaaaag	agataccaga	ctatttcaag	240
cagacctttc	ctgaaggcta	tcactgggag	cgaaaaatga	cttatgagga	cgggggcata	300
agtaacgtcc	gaagcgacat	cagtatgaaa	agtaacaact	gtttctacta	taagattcac	360
ttcactggcg	agtttcctcc	tcattggtcca	gtgatgcaga	gaaagacagt	aaaatgggag	420
ccatccactg	aaaacattta	tcctcgcgac	gaatttctgg	agggagatgt	caacatggct	480
ctgttgctta	aagatggcgg	ccattacaca	tgtgtcttta	aaactattta	cagatccaag	540
cactcgatca	acatgccgga	tttccatttt	atagaccacc	gcattgagat	tctgggcaac	600
ccagaagaca	agccgggtcaa	gctgtacgag	attgctacag	ctcgccatca	tgggctgaag	660
ggtaagccta	tccctaacc	tctcctcgga	ctcgattcta	cgcgatccgg	ttag	714

<210> 124
 <211> 237
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 124
 Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Glu Gly
 1 5 10 15
 Ala Val Asn Gly His His Phe Thr Ile Lys Gly Glu Gly Gly Tyr
 20 25 30
 Pro Tyr Glu Gly Val Gln Phe Met Ser Leu Glu Val Val Asn Gly Ala
 35 40 45
 Pro Leu Thr Phe Ser Phe Asp Val Leu Thr Pro Ala Phe Met Tyr Gly
 50 55 60
 Asn Arg Val Phe Thr Lys Tyr Pro Lys Glu Ile Pro Asp Tyr Phe Lys
 65 70 75 80
 Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Lys Met Thr Tyr Glu
 85 90 95
 Asp Gly Gly Ile Ser Asn Val Arg Ser Asp Ile Ser Met Lys Ser Asn
 100 105 110
 Asn Cys Phe Tyr Tyr Lys Ile His Phe Thr Gly Glu Phe Pro Pro His
 115 120 125
 Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro Ser Thr Glu
 130 135 140
 Asn Ile Tyr Pro Arg Asp Glu Phe Leu Glu Gly Asp Val Asn Met Ala
 145 150 155 160
 Leu Leu Leu Lys Asp Gly Gly His Tyr Thr Cys Val Phe Lys Thr Ile
 165 170 175
 Tyr Arg Ser Lys His Ser Ile Asn Met Pro Asp Phe His Phe Ile Asp
 180 185 190
 His Arg Ile Glu Ile Leu Gly Asn Pro Glu Asp Lys Pro Val Lys Leu
 195 200 205
 Tyr Glu Ile Ala Thr Ala Arg His His Gly Leu Lys Gly Lys Pro Ile
 210 215 220
 Pro Asn Pro Leu Leu Gly Leu Asp Ser Thr Arg Thr Gly
 225 230 235

<210> 125
 <211> 714
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 125
 atgaaggggg tgaaggaagt aatgaagatc agtctggaga tggactgcac tgttaacggc 60
 gacaaattta cgatcaaagg ggaaggagga ggataccctt acgaaggagt acagtttatg 120
 tctcttgaag tggatgaatgg cgcgctctg ccgtttggtt ggcatatatt gtcaccagca 180
 tttatgtatg gaaaccgtgt attcaccaaa tacccaaaag agataccaga ctatttcaag 240
 cagacctttc ctgaaggcta tcaactgggag cgaataatga cttttgagga cgggggcgta 300
 tgttgcatca caagcgacat cagtgtgaaa ggtgactcct tcttctatga cattaagttc 360
 actggcatga actttcctcc tcatgggtcca gtgatgcaga gaaagacagt aaaatgggag 420
 ccatccactg aaaacattta tcctcgcgac gaatttcttg agggagatgt caacatggct 480
 ctgttgctta aagatggcgg ccattacaca tgtgtcttta aaactattta cagatccaag 540
 cactcgatca acatgccgga tttccatttt atagaccacc gcattgagat tctgggcaac 600
 ccagaagaca agccggtcaa gctgtacgag attgctacag ctgcctatca tgggctgaag 660
 ggtaagccta tccctaacc tctcctcgga ctcgattcta cgcgtaccgg ttag 714

<210> 126

<211> 237
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 126
 Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Asp Cys
 1 5 10 15
 Thr Val Asn Gly Asp Lys Phe Thr Ile Lys Gly Glu Gly Gly Tyr
 20 25 30
 Pro Tyr Glu Gly Val Gln Phe Met Ser Leu Glu Val Val Asn Gly Ala
 35 40 45
 Pro Leu Pro Phe Gly Trp His Ile Leu Ser Pro Ala Phe Met Tyr Gly
 50 55 60
 Asn Arg Val Phe Thr Lys Tyr Pro Lys Glu Ile Pro Asp Tyr Phe Lys
 65 70 75 80
 Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Ile Met Thr Phe Glu
 85 90 95
 Asp Gly Gly Val Cys Cys Ile Thr Ser Asp Ile Ser Val Lys Gly Asp
 100 105 110
 Ser Phe Phe Tyr Asp Ile Lys Phe Thr Gly Met Asn Phe Pro Pro His
 115 120 125
 Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro Ser Thr Glu
 130 135 140
 Asn Ile Tyr Pro Arg Asp Glu Phe Leu Glu Gly Asp Val Asn Met Ala
 145 150 155 160
 Leu Leu Leu Lys Asp Gly Gly His Tyr Thr Cys Val Phe Lys Thr Ile
 165 170 175
 Tyr Arg Ser Lys His Ser Ile Asn Met Pro Asp Phe His Phe Ile Asp
 180 185 190
 His Arg Ile Glu Ile Leu Gly Asn Pro Glu Asp Lys Pro Val Lys Leu
 195 200 205
 Tyr Glu Ile Ala Thr Ala Arg His His Gly Leu Lys Gly Lys Pro Ile
 210 215 220
 Pro Asn Pro Leu Leu Gly Leu Asp Ser Thr Arg Thr Gly
 225 230 235

<210> 127
 <211> 741
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 127
 atgagtcatt ccaagagtgt gatcaaggac gaaatgttca tcaagattca tctggaaggc 60
 acttttaacg gccacaaatt tacgatcaaa ggggaaggag gaggataccc ttacgaagga 120
 gtacagttaa tgtctcttga agtgggtgaat ggcgcgctc tgacgttttc ttctgatgta 180
 ttgacaccag catttcagta tggaaaccgt acattcacca aatacccaaa agagatacca 240
 gactatttca agcagacctt tcctgaaggc tatcactggg agcgaataat gacttttgag 300
 gacggggggc tatgttgcac cacaagcgac atcagtatga aaagtaacaa ctgtttcttc 360
 tatgacatta agttcactgg catgaacttt cctcctcatg gtccagtgat gcagagaaag 420
 acagtaaaat gggagccatc cactgaagta atgtatgttg acgacaagag tgacggtgtg 480
 ctgaagggag atgtcaacat ggctctgttg cttaaagatg gccgccattt gagagttgac 540
 tttaacactt cttacatacc caagcactcg atcaacatgc cggatttcca ttttatagac 600
 caccgcattg agattatgga gcatgacgag gactacaacc atgtcaagct gcgcgagatt 660
 gctacagctc gccatcatgg gctgaagggt aagcctatcc ctaaccctct cctcggactc 720
 gattctacgc gtaccggtta g 741

<210> 128
 <211> 246

<212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 128
 Met Ser His Ser Lys Ser Val Ile Lys Asp Glu Met Phe Ile Lys Ile
 1 5 10 15
 His Leu Glu Gly Thr Phe Asn Gly His Lys Phe Thr Ile Lys Gly Glu
 20 25 30
 Gly Gly Gly Tyr Pro Tyr Glu Gly Val Gln Phe Met Ser Leu Glu Val
 35 40 45
 Val Asn Gly Ala Pro Leu Thr Phe Ser Phe Asp Val Leu Thr Pro Ala
 50 55 60
 Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro Lys Glu Ile Pro
 65 70 75 80
 Asp Tyr Phe Lys Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Ile
 85 90 95
 Met Thr Phe Glu Asp Gly Gly Val Cys Ile Thr Ser Asp Ile Ser
 100 105 110
 Met Lys Ser Asn Asn Cys Phe Phe Tyr Asp Ile Lys Phe Thr Gly Met
 115 120 125
 Asn Phe Pro Pro His Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp
 130 135 140
 Glu Pro Ser Thr Glu Val Met Tyr Val Asp Asp Lys Ser Asp Gly Val
 145 150 155 160
 Leu Lys Gly Asp Val Asn Met Ala Leu Leu Leu Lys Asp Gly Arg His
 165 170 175
 Leu Arg Val Asp Phe Asn Thr Ser Tyr Ile Pro Lys His Ser Ile Asn
 180 185 190
 Met Pro Asp Phe His Phe Ile Asp His Arg Ile Glu Ile Met Glu His
 195 200 205
 Asp Glu Asp Tyr Asn His Val Lys Leu Arg Glu Ile Ala Thr Ala Arg
 210 215 220
 His His Gly Leu Lys Gly Lys Pro Ile Pro Asn Pro Leu Leu Gly Leu
 225 230 235 240
 Asp Ser Thr Arg Thr Gly
 245

<210> 129
 <211> 723
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 129
 atgaaggggg tgaaggaagt aatgaagatc agtctggaga tggagggcgc tggttaacggc 60
 caccacttta cgatcaaagg ggaaggagga ggataccctt acgaaggaac acagacttta 120
 catcttacag agaaggaagg caagcctctg ccgtttggtt ggcatatatt gtcaccacaa 180
 ttacagtatg gaaacaagtc attcgtcagc tacccaaaag agataccaga ctatttcaag 240
 cagacctttc ctgaaggcta tcaactgggag cgaaaaatga cttatgagga cgggggcata 300
 agtaacgtcc gaagccacat caggatgaaa gaggaagagg agcggcattt ctactataag 360
 attcacttca ctggcgagtt tcctcctcat ggtccagtga tgcagagaaa gacagtaaaa 420
 tgggagccat ccactgaacg attgtatctt cgcgacggtg tgctgacggg acatgacgac 480
 atgactctgc ggggttgaagg tggccgccat ttgagagttg actttaacac ttcttacata 540
 cccaagaaga aggtcgagaa tatgcctgac taccatttta tagaccaccg cattgagatt 600
 ctgggcaacc cagaagacaa gccggtcaag ctgtacgaga ttgctacagc tcgccatcat 660
 gggctgaagg gtaagcctat ccctaaccct ctccctcgac tcgattctac gcgtaccggt 720
 tag 723

<210> 130

<211> 240
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 130
 Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Glu Gly
 1 5 10 15
 Ala Val Asn Gly His His Phe Thr Ile Lys Gly Glu Gly Gly Tyr
 20 25 30
 Pro Tyr Glu Gly Thr Gln Thr Leu His Leu Thr Glu Lys Glu Gly Lys
 35 40 45
 Pro Leu Pro Phe Gly Trp His Ile Leu Ser Pro Gln Leu Gln Tyr Gly
 50 55 60
 Asn Lys Ser Phe Val Ser Tyr Pro Lys Glu Ile Pro Asp Tyr Phe Lys
 65 70 75 80
 Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Lys Met Thr Tyr Glu
 85 90 95
 Asp Gly Gly Ile Ser Asn Val Arg Ser His Ile Arg Met Lys Glu Glu
 100 105 110
 Glu Glu Arg His Phe Tyr Tyr Lys Ile His Phe Thr Gly Glu Phe Pro
 115 120 125
 Pro His Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro Ser
 130 135 140
 Thr Glu Arg Leu Tyr Leu Arg Asp Gly Val Leu Thr Gly His Asp Asp
 145 150 155 160
 Met Thr Leu Arg Val Glu Gly Gly Arg His Leu Arg Val Asp Phe Asn
 165 170 175
 Thr Ser Tyr Ile Pro Lys Lys Lys Val Glu Asn Met Pro Asp Tyr His
 180 185 190
 Phe Ile Asp His Arg Ile Glu Ile Leu Gly Asn Pro Glu Asp Lys Pro
 195 200 205
 Val Lys Leu Tyr Glu Ile Ala Thr Ala Arg His His Gly Leu Lys Gly
 210 215 220
 Lys Pro Ile Pro Asn Pro Leu Leu Gly Leu Asp Ser Thr Arg Thr Gly
 225 230 235 240

<210> 131
 <211> 717
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<221> unsure
 <222> 6
 <223> N is A, G, C or T

<221> unsure
 <222> 32
 <223> N is A, G, C or T

<400> 131
 atgaangggg tgaaggaagt aatgaagatc antctggaga tggagggcgc tgttaacggc 60
 caccacttta cgatcaaagg ggaaggagga ggataccctt acgaaggagt acagtttatg 120
 tctcttgaag tggatgaatgg cgcgcctctg ccgtttgggt ggcatatatt gtcaccagca 180
 tttatgtatg gaaaccgtgt attcaccaaa tacccaaaag agataccaga ctatttcaag 240
 cagacctttc ctgaaggcta tcaactggag cgaataatga cttttgagga cgggggcgta 300
 tgttgcatca caagcgacat cagtgtgaaa ggtgactctt tctactataa gattcacttc 360
 actggcgagt ttcctcctca tgggtccagt atgcagagaa agacagtaaa atgggagcca 420
 tccactgaaa acatttatcc tcgcgacgaa tttctggagg gagatgtcaa catggctctg 480

ttgcttaaag	atggcggcta	ttacagagct	gaatttagaa	gttcttaca	aggcaagaag	540
aaggctcgaga	atatgcctga	ctaccatttt	atagaccacc	gcattgagat	tatggagcat	600
gacgaggact	acaacatgt	caagctgcgc	gagattgcta	cagctcgcca	tcatgggctg	660
aagggttaagc	ctatccctaa	ccctctcctc	ggactcgatt	ctacgcgtac	cggtttag	717

<210> 132
 <211> 238
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<221> UNSURE
 <222> 2
 <223> Xaa is Lys or Asp

<221> UNSURE
 <222> 11
 <223> Xaa is Ile, Asp, Ser, or Thr

<400> 132
 Met Xaa Gly Val Lys Glu Val Met Lys Ile Xaa Leu Glu Met Glu Gly
 1 5 10 15
 Ala Val Asn Gly His His Phe Thr Ile Lys Gly Glu Gly Gly Gly Tyr
 20 25 30
 Pro Tyr Glu Gly Val Gln Phe Met Ser Leu Glu Val Val Asn Gly Ala
 35 40 45
 Pro Leu Pro Phe Gly Trp His Ile Leu Ser Pro Ala Phe Met Tyr Gly
 50 55 60
 Asn Arg Val Phe Thr Lys Tyr Pro Lys Glu Ile Pro Asp Tyr Phe Lys
 65 70 75 80
 Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Ile Met Thr Phe Glu
 85 90 95
 Asp Gly Gly Val Cys Cys Ile Thr Ser Asp Ile Ser Val Lys Gly Asp
 100 105 110
 Ser Phe Tyr Tyr Lys Ile His Phe Thr Gly Glu Phe Pro Pro His Gly
 115 120 125
 Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro Ser Thr Glu Asn
 130 135 140
 Ile Tyr Pro Arg Asp Glu Phe Leu Glu Gly Asp Val Asn Met Ala Leu
 145 150 155 160
 Leu Leu Lys Asp Gly Gly Tyr Tyr Arg Ala Glu Phe Arg Ser Ser Tyr
 165 170 175
 Lys Gly Lys Lys Lys Val Glu Asn Met Pro Asp Tyr His Phe Ile Asp
 180 185 190
 His Arg Ile Glu Ile Met Glu His Asp Glu Asp Tyr Asn His Val Lys
 195 200 205
 Leu Arg Glu Ile Ala Thr Ala Arg His His Gly Leu Lys Gly Lys Pro
 210 215 220
 Ile Pro Asn Pro Leu Leu Gly Leu Asp Ser Thr Arg Thr Gly
 225 230 235

<210> 133
 <211> 732
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 133
 atgagtcatt ccaagagtgt gatcaaggac gaaatgttca tcaagattca tctggaaggc 60
 acttttaacg gccacaaatt tacgatcaaa ggggaaggag gaggataccc ttacgaagga 120
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gtacagttta	tgtctcttga	agtgggtgaat	ggcgcgcctc	tgccgttttc	tttcgatata	180
ttgacaccag	catttcagta	tggaaccgt	acattcacca	aatacccaaa	agagatacca	240
gactatttca	agcagacctt	tcctgaaggc	tatcactggg	agcgaataat	gacttttgag	300
gacgggggcg	tatgttgcat	cacaagcgac	atcagtgtag	aagggtgactc	tttctactat	360
aagatttact	tcactggcga	gtttcctcct	aatgggtccag	tgatgcagag	gaggatacga	420
ggatgggagc	catccactga	agtaatgtat	gttgacgaca	agagtgcagg	tgtgctgaag	480
ggacatgacg	acatgactct	gcgggttgaa	ggtggccgcc	atttgagagt	tgactttaac	540
acttcttaca	tacccaagca	ctcgatcaac	atgccggatt	tccattttat	agaccaccgc	600
attgagattc	tgggcaaccc	agaagacaag	ccgggtcaagc	tgtacgagat	tgctacagct	660
cgccatcatg	ggctgaaggg	taagcctatc	cctaaccctc	tcctcggact	cgattctacg	720
cgtaccggtt	ag					732

<210> 134
 <211> 243
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 134
 Met Ser His Ser Lys Ser Val Ile Lys Asp Glu Met Phe Ile Lys Ile
 1 5 10 15
 His Leu Glu Gly Thr Phe Asn Gly His Lys Phe Thr Ile Lys Gly Glu
 20 25 30
 Gly Gly Gly Tyr Pro Tyr Glu Gly Val Gln Phe Met Ser Leu Glu Val
 35 40 45
 Val Asn Gly Ala Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Ala
 50 55 60
 Phe Gln Tyr Gly Asn Arg Thr Phe Thr Lys Tyr Pro Lys Glu Ile Pro
 65 70 75 80
 Asp Tyr Phe Lys Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Ile
 85 90 95
 Met Thr Phe Glu Asp Gly Gly Val Cys Cys Ile Thr Ser Asp Ile Ser
 100 105 110
 Val Lys Gly Asp Ser Phe Tyr Tyr Lys Ile His Phe Thr Gly Glu Phe
 115 120 125
 Pro Pro Asn Gly Pro Val Met Gln Arg Arg Ile Arg Gly Trp Glu Pro
 130 135 140
 Ser Thr Glu Val Met Tyr Val Asp Asp Lys Ser Asp Gly Val Leu Lys
 145 150 155 160
 Gly His Asp Asp Met Thr Leu Arg Val Glu Gly Gly Arg His Leu Arg
 165 170 175
 Val Asp Phe Asn Thr Ser Tyr Ile Pro Lys His Ser Ile Asn Met Pro
 180 185 190
 Asp Phe His Phe Ile Asp His Arg Ile Glu Ile Leu Gly Asn Pro Glu
 195 200 205
 Asp Lys Pro Val Lys Leu Tyr Glu Ile Ala Thr Ala Arg His His Gly
 210 215 220
 Leu Lys Gly Lys Pro Ile Pro Asn Pro Leu Leu Gly Leu Asp Ser Thr
 225 230 235 240
 Arg Thr Gly

<210> 135
 <211> 717
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 135
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caccactttg	agatcgaagg	ggaggggaaac	ggaaaacctt	acgcaggagt	acagtttatg	120
tctcttgaag	tggatgaatgg	cgcgcctctg	ccgttttctt	tcgatatatt	gacaccagca	180
tttatgtatg	gaaaccgtgt	attcaccaaa	tacccaaaag	agataccaga	ctatttcaag	240
cagacctttc	ctgaaggcta	tcactgggag	cgaataatga	cttttgagga	cgggggcgta	300
tgttgcatca	caagcgacat	cagtgtgaaa	ggtgactctt	tcttctatga	cattaagttc	360
actggcatga	actttcctcc	tcattggtcca	gtgatgcaga	gaaagacagt	aaaatgggag	420
ccatccactg	aaaacattta	tcctcgcgac	gaatttctgg	agggagatgt	caacatggct	480
ctgttgctta	aagatggcgg	ccattacaca	tgtgtcttta	aaactattta	cagatccaag	540
cactcgatca	acatgccgga	tttccatttt	atagaccacc	gcattgagat	tatggagcat	600
gacgaggact	acaaccatgt	caagctgcgc	gagattgcta	cagctcgcca	tcatgggctg	660
aagggttaagc	aaatccctaa	ccctctcctc	ggactcgatt	ctacgggtac	cggttag	717

<210> 136

<211> 238

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated

<400> 136

Met	Lys	Gly	Val	Lys	Glu	Val	Met	Lys	Ile	Ser	Leu	Glu	Met	Glu	Gly
1				5					10					15	
Ala	Val	Asn	Gly	His	His	Phe	Glu	Ile	Glu	Gly	Glu	Gly	Asn	Gly	Lys
			20					25					30		
Pro	Tyr	Ala	Gly	Val	Gln	Phe	Met	Ser	Leu	Glu	Val	Val	Asn	Gly	Ala
		35					40					45			
Pro	Leu	Pro	Phe	Ser	Phe	Asp	Ile	Leu	Thr	Pro	Ala	Phe	Met	Tyr	Gly
	50					55					60				
Asn	Arg	Val	Phe	Thr	Lys	Tyr	Pro	Lys	Glu	Ile	Pro	Asp	Tyr	Phe	Lys
65					70					75					80
Gln	Thr	Phe	Pro	Glu	Gly	Tyr	His	Trp	Glu	Arg	Ile	Met	Thr	Phe	Glu
			85						90					95	
Asp	Gly	Gly	Val	Cys	Cys	Ile	Thr	Ser	Asp	Ile	Ser	Val	Lys	Gly	Asp
			100					105					110		
Ser	Phe	Phe	Tyr	Asp	Ile	Lys	Phe	Thr	Gly	Met	Asn	Phe	Pro	Pro	His
	115						120					125			
Gly	Pro	Val	Met	Gln	Arg	Lys	Thr	Val	Lys	Trp	Glu	Pro	Ser	Thr	Glu
	130					135					140				
Asn	Ile	Tyr	Pro	Arg	Asp	Glu	Phe	Leu	Glu	Gly	Asp	Val	Asn	Met	Ala
145					150					155					160
Leu	Leu	Leu	Lys	Asp	Gly	Gly	His	Tyr	Thr	Cys	Val	Phe	Lys	Thr	Ile
			165						170					175	
Tyr	Arg	Ser	Lys	His	Ser	Ile	Asn	Met	Pro	Asp	Phe	His	Phe	Ile	Asp
			180					185					190		
His	Arg	Ile	Glu	Ile	Met	Glu	His	Asp	Glu	Asp	Tyr	Asn	His	Val	Lys
	195						200					205			
Leu	Arg	Glu	Ile	Ala	Thr	Ala	Arg	His	His	Gly	Leu	Lys	Gly	Lys	Gln
	210					215					220				
Ile	Pro	Asn	Pro	Leu	Leu	Gly	Leu	Asp	Ser	Thr	Gly	Thr	Gly		
225					230					235					

<210> 137

<211> 738

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated

<400> 137

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gtacagttta	tgtctcttga	agtgggtgaat	ggcgcgcctc	tgacgttttc	tttcgatgta	180

ttgacaccag	catttatgta	tggaaccgt	gtattcacca	aatacccaaa	agagatacca	240
gactatttca	agcagacctt	tcctgaaggc	tatcactggg	agcgaataat	gacttttgag	300
gacgggggcg	tatgttgcac	cacaagcgac	atcagtgtga	aagggtgactc	tttcttctat	360
gacattaagt	tcactggcat	gaactttcct	cctcatggtc	cagtgatgca	gagaaagaca	420
gtaaaatggg	agccatccac	tgaacgattg	tatcttcgcg	acggtgtgct	gacgggacat	480
gacgacatga	ctctgcggt	tgaagggtggc	cgccatttga	gagttgactt	taacacttct	540
tacataccca	agcactcgat	caacatgccg	gatttccatt	ttatagacca	ccgcattgag	600
attctgggca	acccagaaga	caagccggtc	aagctgtacg	agtgtgctgt	agctcgctat	660
tctctgctgc	ctgagaagaa	caagggtaa	cctatcccta	accctctcct	cggactcgat	720
tctacgcgta	ccggttag					738

<210> 138

<211> 245

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated

<400> 138

Met	Ser	His	Ser	Lys	Ser	Val	Ile	Lys	Asp	Glu	Met	Phe	Ile	Lys	Ile
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His	Leu	Glu	Gly	Thr	Phe	Asn	Gly	His	Lys	Phe	Thr	Ile	Lys	Gly	Glu
			20					25					30		
Gly	Gly	Gly	Tyr	Pro	Tyr	Glu	Gly	Val	Gln	Phe	Met	Ser	Leu	Glu	Val
		35					40					45			
Val	Asn	Gly	Ala	Pro	Leu	Thr	Phe	Ser	Phe	Asp	Val	Leu	Thr	Pro	Ala
	50					55					60				
Phe	Met	Tyr	Gly	Asn	Arg	Val	Phe	Thr	Lys	Tyr	Pro	Lys	Glu	Ile	Pro
65				70					75					80	
Asp	Tyr	Phe	Lys	Gln	Thr	Phe	Pro	Glu	Gly	Tyr	His	Trp	Glu	Arg	Ile
			85						90				95		
Met	Thr	Phe	Glu	Asp	Gly	Gly	Val	Cys	Cys	Ile	Thr	Ser	Asp	Ile	Ser
			100					105					110		
Val	Lys	Gly	Asp	Ser	Phe	Phe	Tyr	Asp	Ile	Lys	Phe	Thr	Gly	Met	Asn
		115					120					125			
Phe	Pro	Pro	His	Gly	Pro	Val	Met	Gln	Arg	Lys	Thr	Val	Lys	Trp	Glu
	130					135					140				
Pro	Ser	Thr	Glu	Arg	Leu	Tyr	Leu	Arg	Asp	Gly	Val	Leu	Thr	Gly	His
145					150					155				160	
Asp	Asp	Met	Thr	Leu	Arg	Val	Glu	Gly	Gly	Arg	His	Leu	Arg	Val	Asp
			165					170					175		
Phe	Asn	Thr	Ser	Tyr	Ile	Pro	Lys	His	Ser	Ile	Asn	Met	Pro	Asp	Phe
			180					185					190		
His	Phe	Ile	Asp	His	Arg	Ile	Glu	Ile	Leu	Gly	Asn	Pro	Glu	Asp	Lys
		195				200						205			
Pro	Val	Lys	Leu	Tyr	Glu	Cys	Ala	Val	Ala	Arg	Tyr	Ser	Leu	Leu	Pro
	210					215					220				
Glu	Lys	Asn	Lys	Gly	Lys	Pro	Ile	Pro	Asn	Pro	Leu	Leu	Gly	Leu	Asp
225					230				235					240	
Ser	Thr	Arg	Thr	Gly											
			245												

<210> 139

<211> 729

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated

<400> 139

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acttttaacg	gccacaaatt	tacgatcaaa	ggggaaggag	gaggataccc	ttacgaagga	120

gtacagttta	tgtctcttga	agtgggtgaat	ggcgcgcctc	tgacgttttc	tttcgatgta	180
ttgacaccag	cattttatgta	tggaaaaccgt	gtattcacca	aatacccaaa	agggatacca	240
gactattttca	agcagacctt	tcctgaaggc	tatcactggg	agcgaataat	gacttttgag	300
gacggggggcg	tatgtttgcat	cacaagcgac	atcagtgga	aaggtgactc	tttcttctat	360
gacattaagt	tcactggcat	gaacttttct	cctaattggc	cagtgatgca	gaggaggata	420
ctaggatggg	agccatccac	tgaacgattg	tatcttcgcg	acggtgtgct	gacggggacat	480
gacgacatga	ctctgcggt	tgaagggtggc	ggccattaca	catgtgtctt	taaaactatt	540
tacagatcca	agaagaaggt	cgagaatatg	cctgactacc	attttataga	ccaccgcatt	600
gagattctgg	gcaaccaga	agacaagccg	gtcaagctgt	acgagattgc	tacagctcgc	660
catcatgggc	tgaagggtaa	gcctatccct	aaccctctcc	tcggactcga	ttctacgcgt	720
accggttag						729

<210> 140
 <211> 242
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 140
 Met Ser His Ser Lys Ser Val Ile Lys Asp Glu Met Phe Ile Lys Ile
 1 5 10 15
 His Leu Glu Gly Thr Phe Asn Gly His Lys Phe Thr Ile Lys Gly Glu
 20 25 30
 Gly Gly Gly Tyr Pro Tyr Glu Gly Val Gln Phe Met Ser Leu Glu Val
 35 40 45
 Val Asn Gly Ala Pro Leu Thr Phe Ser Phe Asp Val Leu Thr Pro Ala
 50 55 60
 Phe Met Tyr Gly Asn Arg Val Phe Thr Lys Tyr Pro Lys Gly Ile Pro
 65 70 75 80
 Asp Tyr Phe Lys Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Ile
 85 90 95
 Met Thr Phe Glu Asp Gly Gly Val Cys Cys Ile Thr Ser Asp Ile Ser
 100 105 110
 Val Lys Gly Asp Ser Phe Phe Tyr Asp Ile Lys Phe Thr Gly Met Asn
 115 120 125
 Phe Pro Pro Asn Gly Pro Val Met Gln Arg Arg Ile Leu Gly Trp Glu
 130 135 140
 Pro Ser Thr Glu Arg Leu Tyr Leu Arg Asp Gly Val Leu Thr Gly His
 145 150 155 160
 Asp Asp Met Thr Leu Arg Val Glu Gly Gly His Tyr Thr Cys Val
 165 170 175
 Phe Lys Thr Ile Tyr Arg Ser Lys Lys Lys Val Glu Asn Met Pro Asp
 180 185 190
 Tyr His Phe Ile Asp His Arg Ile Glu Ile Leu Gly Asn Pro Glu Asp
 195 200 205
 Lys Pro Val Lys Leu Tyr Glu Ile Ala Thr Ala Arg His His Gly Leu
 210 215 220
 Lys Gly Lys Pro Ile Pro Asn Pro Leu Leu Gly Leu Asp Ser Thr Arg
 225 230 235 240
 Thr Gly

<210> 141
 <211> 726
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 141
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 Page 69

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gacaaatttta	cgatcaaagg	ggaaggagga	ggataccctt	acgaaggagt	acagtttatg	120
tctcttgaaag	tgggtgaatgg	cgcgcctctg	ccgttttctt	tcgatataatt	gacaccacaa	180
ttacagtatg	gaaacaagtc	attcgtcagc	tacccaaaag	agataccaga	ctatttcaag	240
cagacctttc	ctgaaggcta	tcactgggag	cgaataatga	cttttgagga	cgggggcgta	300
tgttgcatca	caagccacat	caggatgaaa	gaggaagagg	agcggcattt	cttctatgac	360
attaagtcca	ctggcatgaa	ctttcctcct	catggtccag	tgatgcagag	aaagacagta	420
aaatgggagc	catccactga	aaacatttat	cctcgcgacg	aatttctgga	gggacatgac	480
gacatgactc	tgcggttgga	aggtggccgc	catttgagag	ttgactttaa	cacttcttac	540
ataccaagc	actcgatcaa	catgccggat	ttccatttta	tagaccaccg	cattgagatt	600
atggagcatg	acgaggacta	caaccatgtc	aagctgcgcg	agattgctac	agctcgccat	660
catgggctga	agggtaagcc	tatccctaac	cctctcctcg	gactcgattc	tacgcgtacc	720
ggttag						726

<210> 142
 <211> 241
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 142

Met	Lys	Gly	Val	Lys	Glu	Val	Met	Lys	Ile	Ser	Leu	Glu	Met	Asp	Cys
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Thr	Val	Asn	Gly	Asp	Lys	Phe	Thr	Ile	Lys	Gly	Glu	Gly	Gly	Gly	Tyr
		20						25					30		
Pro	Tyr	Glu	Gly	Val	Gln	Phe	Met	Ser	Leu	Glu	Val	Val	Asn	Gly	Ala
		35					40					45			
Pro	Leu	Pro	Phe	Ser	Phe	Asp	Ile	Leu	Thr	Pro	Gln	Leu	Gln	Tyr	Gly
	50					55					60				
Asn	Lys	Ser	Phe	Val	Ser	Tyr	Pro	Lys	Glu	Ile	Pro	Asp	Tyr	Phe	Lys
65					70				75					80	
Gln	Thr	Phe	Pro	Glu	Gly	Tyr	His	Trp	Glu	Arg	Ile	Met	Thr	Phe	Glu
			85						90					95	
Asp	Gly	Gly	Val	Cys	Cys	Ile	Thr	Ser	His	Ile	Arg	Met	Lys	Glu	Glu
			100					105					110		
Glu	Glu	Arg	His	Phe	Phe	Tyr	Asp	Ile	Lys	Phe	Thr	Gly	Met	Asn	Phe
		115					120					125			
Pro	Pro	His	Gly	Pro	Val	Met	Gln	Arg	Lys	Thr	Val	Lys	Trp	Glu	Pro
	130					135					140				
Ser	Thr	Glu	Asn	Ile	Tyr	Pro	Arg	Asp	Glu	Phe	Leu	Glu	Gly	His	Asp
145					150					155				160	
Asp	Met	Thr	Leu	Arg	Val	Glu	Gly	Gly	Arg	His	Leu	Arg	Val	Asp	Phe
			165					170						175	
Asn	Thr	Ser	Tyr	Ile	Pro	Lys	His	Ser	Ile	Asn	Met	Pro	Asp	Phe	His
			180					185					190		
Phe	Ile	Asp	His	Arg	Ile	Glu	Ile	Met	Glu	His	Asp	Glu	Asp	Tyr	Asn
	195					200						205			
His	Val	Lys	Leu	Arg	Glu	Ile	Ala	Thr	Ala	Arg	His	His	Gly	Leu	Lys
	210					215					220				
Gly	Lys	Pro	Ile	Pro	Asn	Pro	Leu	Leu	Gly	Leu	Asp	Ser	Thr	Arg	Thr
225					230					235					240
Gly															

<210> 143
 <211> 732
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 143

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tctcttgaag	tggtgaatgg	cgcgccctctg	ccgttttctt	tcgatataatt	gacaccacaa	180
ttacagtatg	gaaacaagtc	attcgtcagc	tacccagccg	atataccaga	ctatatcaag	240
ctgtcctttc	ctgagggcctt	tacctgggag	cgaagcattc	cttttcaaga	ccaggcctca	300
tgtaccgtca	caagccacat	caggatgaaa	gaggaagagg	agcggcattt	ctactataag	360
attcacttca	ctggcgagtt	tcctcctcat	gggccagtga	tgcagagaaa	gacagtaaaa	420
tgggagccat	ccactgaacg	attgtatctt	cgcgacgggtg	tgctgacggg	agatgtcaac	480
atggctctgt	tgcttaaaga	tggccgccat	ttgagagttg	actttaacac	ttcttacata	540
cccaagcact	cgatcaacat	gccggatttc	cattttatag	accaccgcac	tgagattctg	600
ggcaacccag	aagacaagcc	ggtcaagctg	tacgagtgtg	ctgtagctcg	ctattctctg	660
ctgcctgaga	agaacaaggg	taagcctatc	cctaaccctc	tcctcggact	cgattctacg	720
cgtaccggtt	ag					732

<210> 144
 <211> 243
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 144

Met	Lys	Gly	Val	Lys	Glu	Val	Met	Lys	Ile	Ser	Leu	Glu	Met	Asp	Cys
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Thr	Val	Asn	Gly	Asp	Lys	Phe	Glu	Ile	Glu	Gly	Glu	Gly	Asn	Gly	Lys
		20						25					30		
Pro	Tyr	Ala	Gly	Val	Gln	Phe	Met	Ser	Leu	Glu	Val	Val	Asn	Gly	Ala
		35					40					45			
Pro	Leu	Pro	Phe	Ser	Phe	Asp	Ile	Leu	Thr	Pro	Gln	Leu	Gln	Tyr	Gly
	50				55					60					
Asn	Lys	Ser	Phe	Val	Ser	Tyr	Pro	Ala	Asp	Ile	Pro	Asp	Tyr	Ile	Lys
65				70					75					80	
Leu	Ser	Phe	Pro	Glu	Gly	Phe	Thr	Trp	Glu	Arg	Ser	Ile	Pro	Phe	Gln
			85					90					95		
Asp	Gln	Ala	Ser	Cys	Thr	Val	Thr	Ser	His	Ile	Arg	Met	Lys	Glu	Glu
		100					105					110			
Glu	Glu	Arg	His	Phe	Tyr	Tyr	Lys	Ile	His	Phe	Thr	Gly	Glu	Phe	Pro
		115					120					125			
Pro	His	Gly	Pro	Val	Met	Gln	Arg	Lys	Thr	Val	Lys	Trp	Glu	Pro	Ser
	130					135					140				
Thr	Glu	Arg	Leu	Tyr	Leu	Arg	Asp	Gly	Val	Leu	Thr	Gly	Asp	Val	Asn
145				150						155					160
Met	Ala	Leu	Leu	Leu	Lys	Asp	Gly	Arg	His	Leu	Arg	Val	Asp	Phe	Asn
			165					170					175		
Thr	Ser	Tyr	Ile	Pro	Lys	His	Ser	Ile	Asn	Met	Pro	Asp	Phe	His	Phe
		180					185					190			
Ile	Asp	His	Arg	Ile	Glu	Ile	Leu	Gly	Asn	Pro	Glu	Asp	Lys	Pro	Val
		195					200					205			
Lys	Leu	Tyr	Glu	Cys	Ala	Val	Ala	Arg	Tyr	Ser	Leu	Leu	Pro	Glu	Lys
	210					215					220				
Asn	Lys	Gly	Lys	Pro	Ile	Pro	Asn	Pro	Leu	Leu	Gly	Leu	Asp	Ser	Thr
225				230						235					240
Arg	Thr	Gly													

<210> 145
 <211> 717
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

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<400> 145
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tctcttgaag tggatgaatgg cgcgcctctg ccgttttctt tcgatataatt gacaccagca 180
tttatgtatg gaaaccgtgt attcaccaaa tacccaaaaag agataccaga ctatttcaag 240
cagacctttc ctgaaggcta tcactgggag cgaataatga cttttgagga cgggggcgta 300
tggtgcatca caagcgacat cagtgtgaaa ggtgactctt tcttctatga cattaagttc 360
actggcatga actttcctcc tcatgggtcca gtgatgcaga gaaagacagt aaaatgggag 420
ccatccactg aacgattgta tcttcgcgac ggtgtgctga cgggagatgt caacatggct 480
ctgttgctta aagatggcgg ccattacaca tgtgtcttta aaactattta cagatccaag 540
aagaaggctg agaatatgcc tgactaccat tttatagacc accgcattga gattctgggc 600
aaccacagaag acaagccggt caagctgtac gagattgcta cagctcgcca tcatgggctg 660
aagggttaagc ctatccctaa ccctctcctc ggactcgatt ctacgcgtac cggttag 717

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<210> 146
<211> 238
<212> PRT
<213> Artificial Sequence

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<220>
<223> Synthetically generated

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<400> 146
Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Asp Cys
1 5 10 15
Thr Val Asn Gly Asp Lys Phe Glu Ile Glu Gly Glu Gly Asn Gly Lys
20 25 30
Pro Tyr Ala Gly Val Gln Phe Met Ser Leu Glu Val Val Asn Gly Ala
35 40 45
Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Ala Phe Met Tyr Gly
50 55 60
Asn Arg Val Phe Thr Lys Tyr Pro Lys Glu Ile Pro Asp Tyr Phe Lys
65 70 75 80
Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Ile Met Thr Phe Glu
85 90 95
Asp Gly Gly Val Cys Cys Ile Thr Ser Asp Ile Ser Val Lys Gly Asp
100 105 110
Ser Phe Phe Tyr Asp Ile Lys Phe Thr Gly Met Asn Phe Pro Pro His
115 120 125
Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro Ser Thr Glu
130 135 140
Arg Leu Tyr Leu Arg Asp Gly Val Leu Thr Gly Asp Val Asn Met Ala
145 150 155 160
Leu Leu Leu Lys Asp Gly Gly His Tyr Thr Cys Val Phe Lys Thr Ile
165 170 175
Tyr Arg Ser Lys Lys Lys Val Glu Asn Met Pro Asp Tyr His Phe Ile
180 185 190
Asp His Arg Ile Glu Ile Leu Gly Asn Pro Glu Asp Lys Pro Val Lys
195 200 205
Leu Tyr Glu Ile Ala Thr Ala Arg His His Gly Leu Lys Gly Lys Pro
210 215 220
Ile Pro Asn Pro Leu Leu Gly Leu Asp Ser Thr Arg Thr Gly
225 230 235

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<210> 147
<211> 513
<212> DNA
<213> Artificial Sequence

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<220>
<223> Synthetically generated

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<400> 147
ttgagatcga aggggagggga aacggaaaac cttacgcagg aacacagact ttacatctta

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cagagaagga	aggcaagcct	ctgccgtttg	gttggcatat	attgtcacca	caattacagt	120
atggaaacaa	gtcattcgtc	agctaccag	gcaatatacc	agactttttc	aagcagaccg	180
tttctggtgg	cgggtatacc	cactgaagta	atgtatgttg	acgacaagag	tgacggtgtg	240
ctgaagggac	atgacgacat	gactctgcgg	gttgaagggtg	gccgccattt	gagagttgac	300
tttaacactt	cttacatacc	caagcactcg	atcaacatgc	cggatttcca	ttttatagac	360
caccgcattg	atattcggaa	gttcgacgaa	aattacatca	acgtcgagca	ggacgagtgt	420
gctgtagctc	gctattctct	gctgcctgag	aagaacaagg	gtaagcctat	ccctaaccct	480
ctcctcggac	tcgattctac	gcgtaccggt	tag			513

<210> 148
 <211> 170
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 148

Met	Arg	Ser	Lys	Gly	Arg	Glu	Thr	Glu	Asn	Leu	Thr	Gln	Glu	His	Arg
1				5					10					15	
Leu	Tyr	Ile	Leu	Gln	Arg	Arg	Lys	Ala	Ser	Leu	Cys	Arg	Leu	Val	Gly
			20					25					30		
Ile	Tyr	Cys	His	His	Asn	Tyr	Ser	Met	Glu	Thr	Ser	His	Ser	Ser	Ala
		35					40					45			
Thr	Gln	Ala	Ile	Tyr	Gln	Thr	Phe	Ser	Ser	Arg	Pro	Phe	Leu	Val	Ala
	50					55					60				
Gly	Ile	Pro	Thr	Glu	Val	Met	Tyr	Val	Asp	Asp	Lys	Ser	Asp	Gly	Val
65					70				75					80	
Leu	Lys	Gly	His	Asp	Asp	Met	Thr	Leu	Arg	Val	Glu	Gly	Gly	Arg	His
			85						90					95	
Leu	Arg	Val	Asp	Phe	Asn	Thr	Ser	Tyr	Ile	Pro	Lys	His	Ser	Ile	Asn
			100					105					110		
Met	Pro	Asp	Phe	His	Phe	Ile	Asp	His	Arg	Ile	Asp	Ile	Arg	Lys	Phe
		115					120					125			
Asp	Glu	Asn	Tyr	Ile	Asn	Val	Glu	Gln	Asp	Glu	Cys	Ala	Val	Ala	Arg
	130					135					140				
Tyr	Ser	Leu	Leu	Pro	Glu	Lys	Asn	Lys	Gly	Lys	Pro	Ile	Pro	Asn	Pro
145					150				155					160	
Leu	Leu	Gly	Leu	Asp	Ser	Thr	Arg	Thr	Gly						
			165						170						

<210> 149
 <211> 690
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 149

atgaaggggg	tgaaggaagt	aatgaagatc	agtctggaga	tggactgcac	tggttaacggc	60
gacaaattta	cgatcaaagg	ggaaggagga	ggataccctt	acgaaggagt	acagtttatg	120
tctcttgaag	tggtgaatgg	cgcgctcttg	ccgttttctt	tcgatataatt	gacaccagca	180
tttatgtatg	gaaaccgtgt	attcaccaaa	tacccaaaag	agataaccaga	ctatttcaag	240
cagacctttc	ctgaaggcta	ttactgggag	cgaaaaatga	cttatgagga	cggggggcata	300
agtaacgtcc	gaagcgacat	cagtgtgaaa	ggtgactctt	tctactataa	gattcacttc	360
actggcgagt	ttcctcctca	tggtccagtg	atgcagagaa	agacagtaaa	atgggagcca	420
tccactgaaa	acatttatcc	tcgcgacgaa	tttctggagg	gagatgtcaa	catggctctg	480
ttgcttaaag	atggccgcca	tttgagagtt	gactttaaca	cttcttacat	acccaagaag	540
aaggctcgaga	atatgcctga	ctaccatttt	atagaccacc	gcattgagat	tctgggcaac	600
ccagaagaca	agccgggtcaa	gctgtacgag	attgctacag	ctcgccatca	tgggctgaag	660
ggttaagccta	tccctaacc	tctcctcgga				690

<210> 150

<211> 230
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 150
 Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Asp Cys
 1 5 10 15
 Thr Val Asn Gly Asp Lys Phe Thr Ile Lys Gly Glu Gly Gly Tyr
 20 25 30
 Pro Tyr Glu Gly Val Gln Phe Met Ser Leu Glu Val Val Asn Gly Ala
 35 40 45
 Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Ala Phe Met Tyr Gly
 50 55 60
 Asn Arg Val Phe Thr Lys Tyr Pro Lys Glu Ile Pro Asp Tyr Phe Lys
 65 70 75 80
 Gln Thr Phe Pro Glu Gly Tyr Tyr Trp Glu Arg Lys Met Thr Tyr Glu
 85 90 95
 Asp Gly Gly Ile Ser Asn Val Arg Ser Asp Ile Ser Val Lys Gly Asp
 100 105 110
 Ser Phe Tyr Tyr Lys Ile His Phe Thr Gly Glu Phe Pro Pro His Gly
 115 120 125
 Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro Ser Thr Glu Asn
 130 135 140
 Ile Tyr Pro Arg Asp Glu Phe Leu Glu Gly Asp Val Asn Met Ala Leu
 145 150 155 160
 Leu Leu Lys Asp Gly Arg His Leu Arg Val Asp Phe Asn Thr Ser Tyr
 165 170 175
 Ile Pro Lys Lys Lys Val Glu Asn Met Pro Asp Tyr His Phe Ile Asp
 180 185 190
 His Arg Ile Glu Ile Leu Gly Asn Pro Glu Asp Lys Pro Val Lys Leu
 195 200 205
 Tyr Glu Ile Ala Thr Ala Arg His His Gly Leu Lys Gly Lys Pro Ile
 210 215 220
 Pro Asn Pro Leu Leu Gly
 225 230

<210> 151
 <211> 393
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 151
 atggaaaccg tacattcacc aaatacccag gcaatatacc agactttttc aagcagaccg 60
 ttcttggtgg cgggtatacc cactgaagta atgtatgttg acgacaagag tgacggtgtg 120
 ctgaaggagg atgtcaacat ggctctgttg cttaaagatg gccgccattt gagagttgac 180
 tttaacactt cttacatacc caagcactcg atcaacatgc cggatttcca ttttatagac 240
 caccgcattg agattatgga gcatgacgag gactacaacc atgtcaagct gcgcgagtgt 300
 gctgtagctc gctattctct gctgcctgag aagaacaagg gtaagcctat ccctaaccct 360
 ctctcggac tcgattctac gcgtaccggt tag 393

<210> 152
 <211> 130
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 152
Met Glu Thr Val His Ser Pro Asn Thr Gln Ala Ile Tyr Gln Thr Phe
1 5 10 15
Ser Ser Arg Pro Phe Leu Val Ala Gly Ile Pro Thr Glu Val Met Tyr
20 25 30
Val Asp Asp Lys Ser Asp Gly Val Leu Lys Gly Asp Val Asn Met Ala
35 40 45
Leu Leu Leu Lys Asp Gly Arg His Leu Arg Val Asp Phe Asn Thr Ser
50 55 60
Tyr Ile Pro Lys His Ser Ile Asn Met Pro Asp Phe His Phe Ile Asp
65 70 75 80
His Arg Ile Glu Ile Met Glu His Asp Glu Asp Tyr Asn His Val Lys
85 90 95
Leu Arg Glu Cys Ala Val Ala Arg Tyr Ser Leu Leu Pro Glu Lys Asn
100 105 110
Lys Gly Lys Pro Ile Pro Asn Pro Leu Leu Gly Leu Asp Ser Thr Arg
115 120 125
Thr Gly
130

<210> 153
<211> 750
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetically generated

<400> 153
atgagtcatt ccaagagtgt gatcaaggac gaaatgttca tcaagattca tctggaaggc 60
actttaacg gccacaaatt tacgatcaaa ggggaaggag gaggataccc ttacgaagga 120
gtacagttta tgtctcttga agtggtgaat ggcgcgcctc tgacgttttc tticgatgta 180
ttgacaccag catttatgta tggaaaccgt gtattcacca aatacccaaa agagatacca 240
gactatttca agcagacctt tcctgaaggc tatcactggg agcgaataat gacttttgag 300
gacgggggag tatgttgcac cacaagccac atcaggatga aagaggaaga ggagcggcat 360
ttcttctatg acattaagtt cactggcatg aactttccct ctcatgggtcc agtgatgcag 420
agaaagacag taaaatggga gccatccact gaagtaatgt atgttgacga caagagtgac 480
ggtgtgctga agggagatgt caacatggct ctgttgctta aagatggcgg ctattacaga 540
gctgaattta gaagttctta caaaggcaag aagaaggctg agaatatgcc tgactaccat 600
tttatagacc accgcattga gattatggag catgacgagg actacaacca tgtcaagctg 660
cgcgagattg ctacagctcg ccatcatggg ctgaagggtg agcctatccc taaccctctc 720
ctcggactcg attctacgag taccggttag 750

<210> 154
<211> 249
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetically generated

<400> 154
Met Ser His Ser Lys Ser Val Ile Lys Asp Glu Met Phe Ile Lys Ile
1 5 10 15
His Leu Glu Gly Thr Phe Asn Gly His Lys Phe Thr Ile Lys Gly Glu
20 25 30
Gly Gly Gly Tyr Pro Tyr Glu Gly Val Gln Phe Met Ser Leu Glu Val
35 40 45
Val Asn Gly Ala Pro Leu Thr Phe Ser Phe Asp Val Leu Thr Pro Ala
50 55 60
Phe Met Tyr Gly Asn Arg Val Phe Thr Lys Tyr Pro Lys Glu Ile Pro
65 70 75 80
Asp Tyr Phe Lys Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Ile
85 90 95

Met Thr Phe Glu Asp Gly Gly Val Cys Cys Ile Thr Ser His Ile Arg
 100 105 110
 Met Lys Glu Glu Glu Arg His Phe Phe Tyr Asp Ile Lys Phe Thr
 115 120 125
 Gly Met Asn Phe Pro Pro His Gly Pro Val Met Gln Arg Lys Thr Val
 130 135 140
 Lys Trp Glu Pro Ser Thr Glu Val Met Tyr Val Asp Asp Lys Ser Asp
 145 150 155 160
 Gly Val Leu Lys Gly Asp Val Asn Met Ala Leu Leu Lys Asp Gly
 165 170 175
 Gly Tyr Tyr Arg Ala Glu Phe Arg Ser Ser Tyr Lys Gly Lys Lys
 180 185 190
 Val Glu Asn Met Pro Asp Tyr His Phe Ile Asp His Arg Ile Glu Ile
 195 200 205
 Met Glu His Asp Glu Asp Tyr Asn His Val Lys Leu Arg Glu Ile Ala
 210 215 220
 Thr Ala Arg His His Gly Leu Lys Gly Lys Pro Ile Pro Asn Pro Leu
 225 230 235 240
 Leu Gly Leu Asp Ser Thr Arg Thr Gly
 245

<210> 155
 <211> 720
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 155
 atgaaggggg tgaaggaagt aatgaagatc agtctggaga tggactgcac tgttaacggc 60
 gacaaattta cgatcaaagg ggaaggagga ggataccctt acgaaggagt acagtttatg 120
 tctcttgaag tgggtgaatgg cgcgcctctg ccgttttctt tcgatataatt gacaccagca 180
 tttatgtatg gaaaccgtgt attcaccaaa tacccaaaag agataccaga ctatttcaag 240
 cagacctttc ctgaaggcta tcactgggag cgaataatga cttttgagga cgggggcgta 300
 tgttgcatca caagcgacat cagtatgaaa agtaacaact gtttcttcta tgacattaag 360
 ttcactggca tgaactttcc tcctcatggg ccagtgatgc agagaaagac agtaaaatgg 420
 gagccatcca ctgaacgatt gtatcttcgc gacgggtgtc tgacgggaga tgtcaacatg 480
 gctctgttgc ttaaagatgg ccgccatttg agagttgact ttaacacttc ttacataccc 540
 aagaagaagg tcgagaatat gcctgactac cattttatag accaccgcat tgagattctg 600
 ggcaacccag aagacaagcc ggtcaagctg tacgagattg ctacagctcg ccatcatggg 660
 ctgaagggta agcctatccc taaccctctc ctcggactcg attctacgcg taccggttag 720

<210> 156
 <211> 239
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 156
 Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Asp Cys
 1 5 10 15
 Thr Val Asn Gly Asp Lys Phe Thr Ile Lys Gly Glu Gly Gly Tyr
 20 25 30
 Pro Tyr Glu Gly Val Gln Phe Met Ser Leu Glu Val Val Asn Gly Ala
 35 40 45
 Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Ala Phe Met Tyr Gly
 50 55 60
 Asn Arg Val Phe Thr Lys Tyr Pro Lys Glu Ile Pro Asp Tyr Phe Lys
 65 70 75 80
 Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Ile Met Thr Phe Glu
 85 90 95

Asp Gly Gly Val Cys Cys Ile Thr Ser Asp Ile Ser Met Lys Ser Asn
 100 105 110
 Asn Cys Phe Phe Tyr Asp Ile Lys Phe Thr Gly Met Asn Phe Pro Pro
 115 120 125
 His Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro Ser Thr
 130 135 140
 Glu Arg Leu Tyr Leu Arg Asp Gly Val Leu Thr Gly Asp Val Asn Met
 145 150 155 160
 Ala Leu Leu Leu Lys Asp Gly Arg His Leu Arg Val Asp Phe Asn Thr
 165 170 175
 Ser Tyr Ile Pro Lys Lys Lys Val Glu Asn Met Pro Asp Tyr His Phe
 180 185 190
 Ile Asp His Arg Ile Glu Ile Leu Gly Asn Pro Glu Asp Lys Pro Val
 195 200 205
 Lys Leu Tyr Glu Ile Ala Thr Ala Arg His His Gly Leu Lys Gly Lys
 210 215 220
 Pro Ile Pro Asn Pro Leu Leu Gly Leu Asp Ser Thr Arg Thr Gly
 225 230 235

<210> 157
 <211> 738
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 157
 atgaagggg tgaaggaagt aatgaagatc agtctggaga tggactgcac tgttaacggc 60
 gacaaattta cgatcaaagg ggaaggagga ggataccctt acgaaggagt acagtttatg 120
 tctcttgaag tggatgaatgg cgcgctctg ccgttttctt tcgatatatatt gacaccagca 180
 tttatgtatg gaaaccgtgt attcaccaaa tacccaaaag agataccaga ctatttcaag 240
 cagacctttc ctgaaggcta tcaactgggag cgaaaaatga cttatgagga cgggggcata 300
 agtaacgtcc gaagcgacat cagtgtgaaa ggtgactctt tcttctatga cattaagttc 360
 actggcatga actttcctcc taatgggtcca gtgatgcaga ggaggatacg aggatgggag 420
 ccattccactg aagtaatgta tgttgacgac aagagtgcag gtgtgctgaa gggagatgtc 480
 aacatggctc tgttgcttaa agatggccgc catttgagag ttgactttaa cacttcttac 540
 atacccaaga agaaggctga gaatatgcct gactaccatt ttatagacca ccgcattgag 600
 attctgggca acccagaaga caagccggtc aagctgtacg agtgtgctgt agctcgctat 660
 tctctgctgc ctgagaagaa caagggttaag cctatcccta accctctcct cggactcgat 720
 tctacgcgta ccggttag 738

<210> 158
 <211> 245
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 158
 Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Asp Cys
 1 5 10 15
 Thr Val Asn Gly Asp Lys Phe Thr Ile Lys Gly Glu Gly Gly Tyr
 20 25 30
 Pro Tyr Glu Gly Val Gln Phe Met Ser Leu Glu Val Val Asn Gly Ala
 35 40 45
 Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Ala Phe Met Tyr Gly
 50 55 60
 Asn Arg Val Phe Thr Lys Tyr Pro Lys Glu Ile Pro Asp Tyr Phe Lys
 65 70 75 80
 Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Lys Met Thr Tyr Glu
 85 90 95
 Asp Gly Gly Ile Ser Asn Val Arg Ser Asp Ile Ser Val Lys Gly Asp

Met Thr Leu Arg Val Glu Gly Gly Gly Tyr Tyr Arg Ala Glu Phe Arg
 165 170 175
 Ser Ser Tyr Lys Gly Lys Lys Lys Val Glu Asn Met Pro Asp Tyr His
 180 185 190
 Phe Ile Asp His Arg Ile Glu Ile Met Glu His Asp Glu Asp Tyr Asn
 195 200
 His Val Lys Leu Arg Glu Cys Ala Val Ala Arg Tyr Ser Leu Leu Pro
 210 215 220
 Glu Lys Asn Lys Gly Lys Pro Ile Pro Asn Pro Leu Leu Gly Leu Asp
 225 230 235 240
 Ser Thr Arg Thr Gly
 245

<210> 163
 <211> 603
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 163
 gtgacgaaag gcgggcctct gccgttttct ttcgatatat tgacaccaca attacagtat 60
 ggaaacaagt caticgtcag ctacccaaaa gagataccag actatttcaa gcagaccttt 120
 cctgaaggct atcactggga gcgaataatg acttttgagg acgggggcgt atgttgcac 180
 acaagcgaca tcagtatgaa aagtaacaac tgtttcttct atgacattaa gttcactggc 240
 atgaactttc ctcctaattg tccagtgatg cagaggagga tacgaggatg ggagccatcc 300
 actgaacgat tgtatcttcg cgacgggtgt ctgacgggag atgtcaacat ggctctgttg 360
 cttaaagatg gcggctatta cagagctgaa tttagaagtt cttacaaagg caagaagaac 420
 ctcacgcttc cggattgctt ctattatgta gacaccaaac ttgagattct gggcaacca 480
 gaagacaagc cggtaagct gtacgagtgt gctgtagctc gctattctct gctgcctgag 540
 aagaacaagg gtaagcctat ccctaaccct ctcctcggac tcgattctac gcgtaccggt 600
 tag 603

<210> 164
 <211> 200
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 164
 Met Thr Lys Gly Gly Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro
 1 5 10 15
 Gln Leu Gln Tyr Gly Asn Lys Ser Phe Val Ser Tyr Pro Lys Glu Ile
 20 25 30
 Pro Asp Tyr Phe Lys Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg
 35 40 45
 Ile Met Thr Phe Glu Asp Gly Gly Val Cys Cys Ile Thr Ser Asp Ile
 50 55 60
 Ser Met Lys Ser Asn Asn Cys Phe Phe Tyr Asp Ile Lys Phe Thr Gly
 65 70 75 80
 Met Asn Phe Pro Pro Asn Gly Pro Val Met Gln Arg Arg Ile Arg Gly
 85 90 95
 Trp Glu Pro Ser Thr Glu Arg Leu Tyr Leu Arg Asp Gly Val Leu Thr
 100 105 110
 Gly Asp Val Asn Met Ala Leu Leu Leu Lys Asp Gly Gly Tyr Tyr Arg
 115 120 125
 Ala Glu Phe Arg Ser Ser Tyr Lys Gly Lys Lys Asn Leu Thr Leu Pro
 130 135 140
 Asp Cys Phe Tyr Tyr Val Asp Thr Lys Leu Glu Ile Leu Gly Asn Pro
 145 150 155 160
 Glu Asp Lys Pro Val Lys Leu Tyr Glu Cys Ala Val Ala Arg Tyr Ser

Leu Leu Pro Glu ¹⁶⁵ Lys Asn Lys Gly ¹⁷⁰ Lys Pro Ile Pro Asn ¹⁷⁵ Pro Leu Leu
¹⁸⁰
 Gly Leu Asp Ser Thr Arg Thr Gly ¹⁸⁵
¹⁹⁵ ²⁰⁰

<210> 165
 <211> 663
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 165
 atgaagggg tgaaggaagt aatgaagatc agtctggaga tggactgcac tgttaacggc 60
 gacaaatttg agatcgaagg ggaggggaaac ggaaaacctt acgcaggaac acagacttta 120
 catcttacag agaaggaagg caagcctctg ccgtttggtt ggcataatatt gtcaccagca 180
 tttatgtatg gaaaccgtgt attcaccaaa taccctaaaag agataccaga ctatttcaag 240
 cagacctttc ctgaaggcta tcaactggag cgaagcattc cttttcaaga ccaggcctca 300
 tgtaccgtca caagcgacat cagtatgaaa agtaacaact gtttcttcta tgacattaag 360
 ttcactggca tgaactttcc tcctcatggt ccagtgatgc agagaaagac agtaaaatgg 420
 gagccatcca ctgaaaacat ttatcctcgc gacgaatttc tggagggaga tgtcaacatg 480
 gctctgtttg tttaaagatgg cggccattac acatgtgtct ttaaaactat ttacagatcc 540
 aagcactcga tcaacatgcc ggatttccat tttatagacc accgcattga tattcggaag 600
 ttcgacgaaa attacatcaa cgcgagcagg acgagattgc tacagctcgc catcatgggc 660
 tga 663

<210> 166
 <211> 220
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 166
 Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Asp Cys
 1 5 10 15
 Thr Val Asn Gly Asp Lys Phe Glu Ile Glu Gly Glu Gly Asn Gly Lys
 20 25 30
 Pro Tyr Ala Gly Thr Gln Thr Leu His Leu Thr Glu Lys Glu Gly Lys
 35 40 45
 Pro Leu Pro Phe Gly Trp His Ile Leu Ser Pro Ala Phe Met Tyr Gly
 50 55 60
 Asn Arg Val Phe Thr Lys Tyr Pro Lys Glu Ile Pro Asp Tyr Phe Lys
 65 70 75 80
 Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Ser Ile Pro Phe Gln
 85 90 95
 Asp Gln Ala Ser Cys Thr Val Thr Ser Asp Ile Ser Met Lys Ser Asn
 100 105 110
 Asn Cys Phe Tyr Asp Ile Lys Phe Thr Gly Met Asn Phe Pro Pro
 115 120 125
 His Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro Ser Thr
 130 135 140
 Glu Asn Ile Tyr Pro Arg Asp Glu Phe Leu Glu Gly Asp Val Asn Met
 145 150 155 160
 Ala Leu Leu Leu Lys Asp Gly Gly His Tyr Thr Cys Val Phe Lys Thr
 165 170 175
 Ile Tyr Arg Ser Lys His Ser Ile Asn Met Pro Asp Phe His Phe Ile
 180 185 190
 Asp His Arg Ile Asp Ile Arg Lys Phe Asp Glu Asn Tyr Ile Asn Ala
 195 200 205
 Ser Arg Thr Arg Leu Leu Gln Leu Ala Ile Met Gly

210

215

220

<210> 167

<211> 726

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated

<400> 167

atgaaggggg	tgaaggaagt	aatgaagatc	agtctggaga	tggagggcgc	tgттаacggc	60
caccacttta	cgatcaaagg	ggaaggagga	ggataccctt	acgaaggagt	acagtttatg	120
tctcttgaag	tggtgaatgg	cgcgcctctg	ccgttttctt	tcgatataat	gacaccagca	180
tttcagtatg	gaaaccgtac	attcaccaaa	tacccaaaag	agataccaga	ctatttcaag	240
cagacctttc	ctgaaggcta	tcactgggag	cgaataatga	cttttgagga	cgggggcgta	300
tgttgcatca	caagccacat	caggatgaaa	gaggaagagg	agcggcattt	ctactataag	360
attcacttta	ctggcgagtt	tcctcctcat	ggtccagtga	tgсagagaaa	gacagtaaaa	420
tgggagccat	ccactgaaaa	catttatcct	cgcgacgaat	ttctggaggg	agatgtcaac	480
atggctctgt	tgcttaaaaga	tggcggccat	tacacatgtg	tctttaaaac	tatttacaga	540
tccaagaaga	aggtcgagaa	tatgcctgac	taccatttta	tagaccaccg	cattgagatt	600
atggagcatg	acgaggacta	caaccatgtc	aagctgcgcg	agattgctac	agctcgccat	660
catgggctga	agggtaagcc	tatccctaac	cctctcctcg	gactcgattc	tacgcgtacc	720
ggttag						726

<210> 168

<211> 241

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated

<400> 168

Met	Lys	Gly	Val	Lys	Glu	Val	Met	Lys	Ile	Ser	Leu	Glu	Met	Glu	Gly
1				5					10					15	
Ala	Val	Asn	Gly	His	His	Phe	Thr	Ile	Lys	Gly	Glu	Gly	Gly	Gly	Tyr
		20						25					30		
Pro	Tyr	Glu	Gly	Val	Gln	Phe	Met	Ser	Leu	Glu	Val	Val	Asn	Gly	Ala
		35					40					45			
Pro	Leu	Pro	Phe	Ser	Phe	Asp	Ile	Leu	Thr	Pro	Ala	Phe	Gln	Tyr	Gly
	50				55					60					
Asn	Arg	Thr	Phe	Thr	Lys	Tyr	Pro	Lys	Glu	Ile	Pro	Asp	Tyr	Phe	Lys
65				70					75					80	
Gln	Thr	Phe	Pro	Glu	Gly	Tyr	His	Trp	Glu	Arg	Ile	Met	Thr	Phe	Glu
		85						90						95	
Asp	Gly	Gly	Val	Cys	Cys	Ile	Thr	Ser	His	Ile	Arg	Met	Lys	Glu	Glu
		100						105					110		
Glu	Glu	Arg	His	Phe	Tyr	Tyr	Lys	Ile	His	Phe	Thr	Gly	Glu	Phe	Pro
	115						120					125			
Pro	His	Gly	Pro	Val	Met	Gln	Arg	Lys	Thr	Val	Lys	Trp	Glu	Pro	Ser
	130					135				140					
Thr	Glu	Asn	Ile	Tyr	Pro	Arg	Asp	Glu	Phe	Leu	Glu	Gly	Asp	Val	Asn
145				150					155					160	
Met	Ala	Leu	Leu	Leu	Lys	Asp	Gly	Gly	His	Tyr	Thr	Cys	Val	Phe	Lys
		165							170					175	
Thr	Ile	Tyr	Arg	Ser	Lys	Lys	Lys	Val	Glu	Asn	Met	Pro	Asp	Tyr	His
	180							185					190		
Phe	Ile	Asp	His	Arg	Ile	Glu	Ile	Met	Glu	His	Asp	Glu	Asp	Tyr	Asn
	195						200					205			
His	Val	Lys	Leu	Arg	Glu	Ile	Ala	Thr	Ala	Arg	His	His	Gly	Leu	Lys
	210					215				220					
Gly	Lys	Pro	Ile	Pro	Asn	Pro	Leu	Leu	Gly	Leu	Asp	Ser	Thr	Arg	Thr
225				230					235					240	

Gly

<210> 169
 <211> 624
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 169
 atggagggcg ctgttaacgg ccaccacttt gagatcgaag gggagggaaa cggaaaacct 60
 tacgcaggag tacagtttat gtctcttgaa gtgggtgaatg gcgcgcctct gccgttttct 120
 ttcgatatat tgacaccagc atttatgtat ggaaaccgtg tttcaccacaa ataccacaaa 180
 gagataccag actattttcaa gcagaccttt cctgaaggct atcactggga gcgaataatg 240
 acttttgagg acggggggcgt atgttgcatc acaagcgaca tcagtgtgaa aggtgactct 300
 ttcttctatg acattaagtt cactggcatg aactttcctc ctcatgggtcc agtgatgcag 360
 agaaagacag taaaatggga gccatccact gaaaacattt atcctcgcga cgaatttctg 420
 gaggagatg tcaacatggc tctgttgctt aaagatggcg gccattacac atgtgtcttt 480
 aaaactattt acagatccaa gcactcgatc aacatgccgg atttccattt tatagaccac 540
 cgcattgaga ttatggagca tgacgaggac tacaaccatg tcaagctgcg cgagattgct 600
 acagctcgcc atcatgggct gaag 624

<210> 170
 <211> 208
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 170
 Met Glu Gly Ala Val Asn Gly His His Phe Glu Ile Glu Gly Glu Gly
 1 5 10 15
 Asn Gly Lys Pro Tyr Ala Gly Val Gln Phe Met Ser Leu Glu Val Val
 20 25 30
 Asn Gly Ala Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Ala Phe
 35 40 45
 Met Tyr Gly Asn Arg Val Phe Thr Lys Tyr Pro Lys Glu Ile Pro Asp
 50 55 60
 Tyr Phe Lys Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Ile Met
 65 70 75 80
 Thr Phe Glu Asp Gly Gly Val Cys Cys Ile Thr Ser Asp Ile Ser Val
 85 90 95
 Lys Gly Asp Ser Phe Phe Tyr Asp Ile Lys Phe Thr Gly Met Asn Phe
 100 105 110
 Pro Pro His Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro
 115 120 125
 Ser Thr Glu Asn Ile Tyr Pro Arg Asp Glu Phe Leu Glu Gly Asp Val
 130 135 140
 Asn Met Ala Leu Leu Leu Lys Asp Gly Gly His Tyr Thr Cys Val Phe
 145 150 155 160
 Lys Thr Ile Tyr Arg Ser Lys His Ser Ile Asn Met Pro Asp Phe His
 165 170 175
 Phe Ile Asp His Arg Ile Glu Ile Met Glu His Asp Glu Asp Tyr Asn
 180 185 190
 His Val Lys Leu Arg Glu Ile Ala Thr Ala Arg His His Gly Leu Lys
 195 200 205

<210> 171
 <211> 702
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 171
 atgatgaccg atctgcatct ggactgcact gttaacggcg acaaatttac gatcaaaggg 60
 gaaggaggag gataccctta cgaagggaaca aattttgtaa aacttgtagt gacgaaaggg 120
 gggcctctgc cgtttggttg gcataatattg tcaccacaat tacagtatgg aaacaagtca 180
 ttcgctcagct acccagccga tataccagac tatatcaagc tgtcctttcc tgagggcttt 240
 acctgggagc gaaaaatgac ttatgaggac gggggcataa gtaacgtccg aagccacatc 300
 aggatgaaaag aggaagagga gcggcatttc tactataaga ttcacttcac tggcgagttt 360
 cctcctcatg gtccagtgat gcagagaaaag acagtaaaat gggagccatc cactgaaaac 420
 atttatcctc gcgacgaatt tctggaggga catgacgaca tgactctgcg gggtgaaggt 480
 ggcgccatt acacatgtgt ctttaaaact atttacagat ccaagaagaa cctcacgctt 540
 ccggattgct tctattatgt agacaccaa cttgagattc tgggcaacc agaagacaag 600
 ccggtcaagc tgtacgagat tgctacagct cgccatcatg ggctgaaggg taagcctatc 660
 cctaaccctc tcctcggact cgattctacg cgtaccgggt ag 702

<210> 172
 <211> 233
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 172
 Met Met Thr Asp Leu His Leu Asp Cys Thr Val Asn Gly Asp Lys Phe
 1 5 10 15
 Thr Ile Lys Gly Glu Gly Gly Gly Tyr Pro Tyr Glu Gly Thr Asn Phe
 20 25 30
 Val Lys Leu Val Val Thr Lys Gly Gly Pro Leu Pro Phe Gly Trp His
 35 40 45
 Ile Leu Ser Pro Gln Leu Gln Tyr Gly Asn Lys Ser Phe Val Ser Tyr
 50 55 60
 Pro Ala Asp Ile Pro Asp Tyr Ile Lys Leu Ser Phe Pro Glu Gly Phe
 65 70 75 80
 Thr Trp Glu Arg Lys Met Thr Tyr Glu Asp Gly Gly Ile Ser Asn Val
 85 90 95
 Arg Ser His Ile Arg Met Lys Glu Glu Glu Glu Arg His Phe Tyr Tyr
 100 105 110
 Lys Ile His Phe Thr Gly Glu Phe Pro Pro His Gly Pro Val Met Gln
 115 120 125
 Arg Lys Thr Val Lys Trp Glu Pro Ser Thr Glu Asn Ile Tyr Pro Arg
 130 135 140
 Asp Glu Phe Leu Glu Gly His Asp Asp Met Thr Leu Arg Val Glu Gly
 145 150 155 160
 Gly Gly His Tyr Thr Cys Val Phe Lys Thr Ile Tyr Arg Ser Lys Lys
 165 170 175
 Asn Leu Thr Leu Pro Asp Cys Phe Tyr Tyr Val Asp Thr Lys Leu Glu
 180 185 190
 Ile Leu Gly Asn Pro Glu Asp Lys Pro Val Lys Leu Tyr Glu Ile Ala
 195 200 205
 Thr Ala Arg His His Gly Leu Lys Gly Lys Pro Ile Pro Asn Pro Leu
 210 215 220
 Leu Gly Leu Asp Ser Thr Arg Thr Gly
 225 230

<210> 173
 <211> 729
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Synthetically generated

<400> 173

atgaaggggg	tgaaggaagt	aatgaagatc	agtctggaga	tggactgcac	tgtaacggc	60
gacaaattta	cgatcaaagg	ggaaggagga	ggataccctt	acgaaggagt	acagtttatg	120
tctcttgaag	tggatgaatg	cgcgctctctg	ccgttttctt	tcgatatatt	gacaccagca	180
tttatgtatg	gaaaccgtgt	attcaccaaa	tacccaaaag	agataccaga	ctattttcaag	240
cagacctttc	ctgaaggcta	tcaactgggag	cgaaaaatga	cttatgagga	cgggggcata	300
agtaacgtcc	gaagcgacat	cagtgtgaaa	ggtagactctt	tctactataa	gattcacttc	360
actggcgagt	ttcctcctaa	tgggccagtg	atgcagagga	ggatacgagg	atgggagcca	420
tccactgaaa	acatttatcc	tcgcgacgaa	tttctggagg	gacatgacga	catgactctg	480
cgggttgaag	gtggccgcca	tttgagagtt	gactttaaca	cttcttacat	acccaagaag	540
aaggctgaga	atatgcctga	ctaccatttt	atagaccacc	gcattgagat	tatggagcat	600
gacgaggact	acaaccatgt	caagctgcgc	gagtggtgctg	tagctcgcta	ttctctgctg	660
cctgagaaga	acaagggtaa	gcctatccct	aacctctctc	tcggactcga	ttctacgcgt	720
accggttag						729

<210> 174

<211> 242

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated

<400> 174

Met	Lys	Gly	Val	Lys	Glu	Val	Met	Lys	Ile	Ser	Leu	Glu	Met	Asp	Cys	
1				5					10					15		
Thr	Val	Asn	Gly	Asp	Lys	Phe	Thr	Ile	Lys	Gly	Glu	Gly	Gly	Gly	Tyr	
		20						25					30			
Pro	Tyr	Glu	Gly	Val	Gln	Phe	Met	Ser	Leu	Glu	Val	Val	Asn	Gly	Ala	
		35					40					45				
Pro	Leu	Pro	Phe	Ser	Phe	Asp	Ile	Leu	Thr	Pro	Ala	Phe	Met	Tyr	Gly	
	50					55					60					
Asn	Arg	Val	Phe	Thr	Lys	Tyr	Pro	Lys	Glu	Ile	Pro	Asp	Tyr	Phe	Lys	
65					70				75					80		
Gln	Thr	Phe	Pro	Glu	Gly	Tyr	His	Trp	Glu	Arg	Lys	Met	Thr	Tyr	Glu	
			85						90					95		
Asp	Gly	Gly	Ile	Ser	Asn	Val	Arg	Ser	Asp	Ile	Ser	Val	Lys	Gly	Asp	
			100					105					110			
Ser	Phe	Tyr	Tyr	Lys	Ile	His	Phe	Thr	Gly	Glu	Phe	Pro	Pro	Asn	Gly	
		115					120					125				
Pro	Val	Met	Gln	Arg	Arg	Ile	Arg	Gly	Trp	Glu	Pro	Ser	Thr	Glu	Asn	
		130				135					140					
Ile	Tyr	Pro	Arg	Asp	Glu	Phe	Leu	Glu	Gly	His	Asp	Asp	Met	Thr	Leu	
145					150				155					160		
Arg	Val	Glu	Gly	Gly	Arg	His	Leu	Arg	Val	Asp	Phe	Asn	Thr	Ser	Tyr	
			165					170						175		
Ile	Pro	Lys	Lys	Lys	Val	Glu	Asn	Met	Pro	Asp	Tyr	His	Phe	Ile	Asp	
			180					185					190			
His	Arg	Ile	Glu	Ile	Met	Glu	His	Asp	Glu	Asp	Tyr	Asn	His	Val	Lys	
		195					200					205				
Leu	Arg	Glu	Cys	Ala	Val	Ala	Arg	Tyr	Ser	Leu	Leu	Pro	Glu	Lys	Asn	
		210				215					220					
Lys	Gly	Lys	Pro	Ile	Pro	Asn	Pro	Leu	Leu	Gly	Leu	Asp	Ser	Thr	Arg	
225					230					235					240	
Thr	Gly															

<210> 175

<211> 663

<212> DNA

<213> Artificial Sequence

<220>
<223> Synthetically generated

<400> 175
atgaaggggg tgaaggaagt aatgaagatc agtctggaga tggactgcac tgттаacggc 60
gacaaatttta cgatcaaagg ggaaggagga ggataccctt acgaaggaac acagacttta 120
catcttacag agaaggaagg caagcctctg ccgtttgggtt ggcataatatt gtcaccagca 180
tttatgtatg gaaaccgtgt attcaccaaa tacccaaaaag agataccaga ctatttcaag 240
cagacctttc ctgaaggcta tcaactggag cgaataatga cttttgagga cgggggcgta 300
tgttgcatca caagcgacat cagtgtgaaa ggtgactctt tctactataa gattcacttc 360
actggcgagt ttcctcctca tgggccagt atgcagagaa agacagtata atgggagcca 420
tccactgaaa acatttatcc tcgcgacgaa tttctggagg gagatgtcaa catggctctg 480
ttgcttaaaag atggcggcca ttacacatgt gtcttttaaaa ctatttacag atccaagaag 540
aaggtcgaga atatgcctga ctaccatttt atagaccacc gcattgagat tatggagcat 600
gacgaggact acaaccatgt caagctgcgc gagattgcta cagctcgcca tcatgggctg 660
tag 663

<210> 176
<211> 220
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetically generated

<400> 176
Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Asp Cys
1 5 10 15
Thr Val Asn Gly Asp Lys Phe Thr Ile Lys Gly Glu Gly Gly Tyr
20 25 30
Pro Tyr Glu Gly Thr Gln Thr Leu His Leu Thr Glu Lys Glu Gly Lys
35 40 45
Pro Leu Pro Phe Gly Trp His Ile Leu Ser Pro Ala Phe Met Tyr Gly
50 55 60
Asn Arg Val Phe Thr Lys Tyr Pro Lys Glu Ile Pro Asp Tyr Phe Lys
65 70 75 80
Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Ile Met Thr Phe Glu
85 90 95
Asp Gly Gly Val Cys Cys Ile Thr Ser Asp Ile Ser Val Lys Gly Asp
100 105 110
Ser Phe Tyr Tyr Lys Ile His Phe Thr Gly Glu Phe Pro Pro His Gly
115 120 125
Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro Ser Thr Glu Asn
130 135 140
Ile Tyr Pro Arg Asp Glu Phe Leu Glu Gly Asp Val Asn Met Ala Leu
145 150 155 160
Leu Leu Lys Asp Gly His Tyr Thr Cys Val Phe Lys Thr Ile Tyr
165 170 175
Arg Ser Lys Lys Lys Val Glu Asn Met Pro Asp Tyr His Phe Ile Asp
180 185 190
His Arg Ile Glu Ile Met Glu His Asp Glu Asp Tyr Asn His Val Lys
195 200 205
Leu Arg Glu Ile Ala Thr Ala Arg His His Gly Leu
210 215 220

<210> 177
<211> 726
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetically generated

<400> 177

atgaagggggg	tgaaggaagt	aatgaagatc	agtctggaga	tggaactgcac	tgtaaacggc	60
gacaaattta	cgatcaaagg	ggaaggagga	ggataccctt	acgaaggagt	acagtttatg	120
tctcttgaag	tggtgaatgg	cgcgctctg	ccgtttgggt	ggcatatatt	gtcaccagca	180
tttatgtatg	gaaaccgtgt	attcaccaaa	tacccaaaag	agataccaga	ctattttcaag	240
cagacctttc	ctgaaggcta	tactggggag	cgaaaaatga	cttatgagga	cgggggcata	300
agtaacgtcc	gaagcgacat	cagtgtgaaa	ggtgactctt	tctactataa	gattcacttc	360
actggcgagt	ttcctcctca	tggtccagtg	atgcagagaa	agacagtaaa	atgggagcca	420
tccactgaag	taatgtatgt	tgacgacaag	agtgacggtg	tgctgaaggg	agatgtcaac	480
atggctctgt	tgcttaaaaga	tggcggccat	tacacatgtg	tctttaaaac	tatttacaga	540
tccaagaaga	aggtcgagaa	tatgcctgac	taccatttta	tagaccaccg	cattgagatt	600
atggagcatg	acgaggacta	caaccatgtc	aagctgcgcg	agattgctac	agctcgccat	660
catgggctga	agggtaaagc	tatccctaac	cctctcctcg	gactcgattc	tacgcgtacc	720
ggtttag						726

<210> 178
 <211> 241
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> synthetically generated

<400> 178

Met	Lys	Gly	Val	Lys	Glu	Val	Met	Lys	Ile	Ser	Leu	Glu	Met	Asp	Cys
1				5					10					15	
Thr	Val	Asn	Gly	Asp	Lys	Phe	Thr	Ile	Lys	Gly	Glu	Gly	Gly	Gly	Tyr
			20					25					30		
Pro	Tyr	Glu	Gly	Val	Gln	Phe	Met	Ser	Leu	Glu	Val	Val	Asn	Gly	Ala
		35					40					45			
Pro	Leu	Pro	Phe	Gly	Trp	His	Ile	Leu	Ser	Pro	Ala	Phe	Met	Tyr	Gly
	50					55					60				
Asn	Arg	Val	Phe	Thr	Lys	Tyr	Pro	Lys	Glu	Ile	Pro	Asp	Tyr	Phe	Lys
65					70				75					80	
Gln	Thr	Phe	Pro	Glu	Gly	Tyr	His	Trp	Glu	Arg	Lys	Met	Thr	Tyr	Glu
			85					90					95		
Asp	Gly	Gly	Ile	Ser	Asn	Val	Arg	Ser	Asp	Ile	Ser	Val	Lys	Gly	Asp
			100					105					110		
Ser	Phe	Tyr	Tyr	Lys	Ile	His	Phe	Thr	Gly	Glu	Phe	Pro	Pro	His	Gly
	115						120					125			
Pro	Val	Met	Gln	Arg	Lys	Thr	Val	Lys	Trp	Glu	Pro	Ser	Thr	Glu	Val
	130					135					140				
Met	Tyr	Val	Asp	Asp	Lys	Ser	Asp	Gly	Val	Leu	Lys	Gly	Asp	Val	Asn
145					150					155					160
Met	Ala	Leu	Leu	Leu	Lys	Asp	Gly	Gly	His	Tyr	Thr	Cys	Val	Phe	Lys
			165						170					175	
Thr	Ile	Tyr	Arg	Ser	Lys	Lys	Lys	Val	Glu	Asn	Met	Pro	Asp	Tyr	His
			180					185					190		
Phe	Ile	Asp	His	Arg	Ile	Glu	Ile	Met	Glu	His	Asp	Glu	Asp	Tyr	Asn
	195						200					205			
His	Val	Lys	Leu	Arg	Glu	Ile	Ala	Thr	Ala	Arg	His	His	Gly	Leu	Lys
	210					215					220				
Gly	Lys	Pro	Ile	Pro	Asn	Pro	Leu	Leu	Gly	Leu	Asp	Ser	Thr	Arg	Thr
225					230					235					240
Gly															

<210> 179
 <211> 825
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> synthetically generated

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<400> 179
atgatggcga tttccgctct aaagaacgtc atcatcatcg taatcatata ctcctgcagc      60
actagtgtcg attcgtcgaa ctcttactct ggatcctcct tcgcgaatgg gattgcggaa      120
gaaatgatga ccgatctgca tctggactgc actgttaacg gcgacaaatt tacgatcaaa      180
ggggaaggag gaggataccc ttacgaagga gtacagttta tgtctcttga agtgggtgaat      240
ggcgcgccctc tgccggtttt tttcgatata ttgacaccag catttatgta tggaaaccgt      300
gtattcacca aatacccaaa agagatacca gactatttca agcagacctt tcctgaaggc      360
tatcactggg agcgaataat gacttttgag gacgggggcg tatgttgcac cacaagcgac      420
atcagtgtga aaggtgactc tttcttctat gacattaagt tcaactggcat gaactttcct      480
cctaattggtc cagtgatgca gaggaggata cgaggatggg agccatccac tgaacgattg      540
tatcttcgag acggtgtgct gacgggacat gacgacatga ctctgcgggt tgaagggtggc      600
cgccatttga gagttgactt taacacttct tacataccca agaagaacct cacgcttccg      660
gattgcttct attatgtaga caccaaactt gatattcgga agttcgacga aaattacatc      720
aacgtcggagc aggcagagat tgctacagct cgccatcatg ggctgaaggg taagcctatc      780
cctaaccctc tcctcggact cgattctacg cgtaccggta gctcg      825

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<210> 180
<211> 275
<212> PRT
<213> Artificial Sequence

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<220>
<223> Synthetically generated

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<400> 180
Met Met Ala Ile Ser Ala Leu Lys Asn Val Ile Ile Ile Val Ile Ile
1      5      10      15
Tyr Ser Cys Ser Thr Ser Ala Asp Ser Ser Asn Ser Tyr Ser Gly Ser
20      25      30
Ser Phe Ala Asn Gly Ile Ala Glu Glu Met Met Thr Asp Leu His Leu
35      40      45
Asp Cys Thr Val Asn Gly Asp Lys Phe Thr Ile Lys Gly Glu Gly Gly
50      55      60
Gly Tyr Pro Tyr Glu Gly Val Gln Phe Met Ser Leu Glu Val Val Asn
65      70      75      80
Gly Ala Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Ala Phe Met
85      90      95
Tyr Gly Asn Arg Val Phe Thr Lys Tyr Pro Lys Glu Ile Pro Asp Tyr
100      105      110
Phe Lys Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Ile Met Thr
115      120      125
Phe Glu Asp Gly Gly Val Cys Cys Ile Thr Ser Asp Ile Ser Val Lys
130      135      140
Gly Asp Ser Phe Phe Tyr Asp Ile Lys Phe Thr Gly Met Asn Phe Pro
145      150      155      160
Pro Asn Gly Pro Val Met Gln Arg Arg Ile Arg Gly Trp Glu Pro Ser
165      170      175
Thr Glu Arg Leu Tyr Leu Arg Asp Gly Val Leu Thr Gly His Asp Asp
180      185      190
Met Thr Leu Arg Val Glu Gly Gly Arg His Leu Arg Val Asp Phe Asn
195      200      205
Thr Ser Tyr Ile Pro Lys Lys Asn Leu Thr Leu Pro Asp Cys Phe Tyr
210      215      220
Tyr Val Asp Thr Lys Leu Asp Ile Arg Lys Phe Asp Glu Asn Tyr Ile
225      230      235
Asn Val Glu Gln Asp Glu Ile Ala Thr Ala Arg His His Gly Leu Lys
240      245      250      255
Gly Lys Pro Ile Pro Asn Pro Leu Leu Gly Leu Asp Ser Thr Arg Thr
260      265      270
Gly Ser Ser
275

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<210> 181
<211> 750

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<212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 181
 atgagtcatt ccaagagtgt gatcaaggac gaaatgttca tcaagattca tctggaaggc 60
 actttttaacg gccacaaatt tacgatcaaa ggggaaggag gaggataccc ttacgaagga 120
 gtacagttta tgtctcttga agtgggtgaat ggcgcgcctc tgccgttttc tttcgatata 180
 ttgacaccag catttatgta tggaaaccgt gtattcacca aatacccaaa agagatacca 240
 gactattttca agcagacctt tcctgaaggc tatcactggg agcgaataat gacttttgag 300
 gacgggggag tatgttgcac cacaagccac atcaggatga aagaggaaga ggagcggcat 360
 ttctttctatg acattaagtt cactggcatg aactttcctc ctcatgggtcc agtgatgcag 420
 agaagacag taaaatggga gccatccact gaacgattgt atcttcgcga cgggtgtgctg 480
 acgggacatg acgacatgac tctgcgggtt gaagggtggc gccatttgag agttgacttt 540
 aacactttctt acatacccaa gcactcgatc aacatgccgg atttccattt tatagaccac 600
 cgcattgaga ttatggagca tgacgaggac tacaaccatg tcaagctgcg cgagtgtgct 660
 gtagctcgct atttctctgct gcctgagaag aacaagggtg agcctatccc taaccctctc 720
 ctcggactcg attctacgcg taccggttag 750

<210> 182
 <211> 249
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 182
 Met Ser His Ser Lys Ser Val Ile Lys Asp Glu Met Phe Ile Lys Ile
 1 5 10 15
 His Leu Glu Gly Thr Phe Asn Gly His Lys Phe Thr Ile Lys Gly Glu
 20 25 30
 Gly Gly Gly Tyr Pro Tyr Glu Gly Val Gln Phe Met Ser Leu Glu Val
 35 40 45
 Val Asn Gly Ala Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Ala
 50 55 60
 Phe Met Tyr Gly Asn Arg Val Phe Thr Lys Tyr Pro Lys Glu Ile Pro
 65 70 75 80
 Asp Tyr Phe Lys Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Ile
 85 90 95
 Met Thr Phe Glu Asp Gly Gly Val Cys Ile Thr Ser His Ile Arg
 100 105 110
 Met Lys Glu Glu Glu Glu Arg His Phe Phe Tyr Asp Ile Lys Phe Thr
 115 120 125
 Gly Met Asn Phe Pro Pro His Gly Pro Val Met Gln Arg Lys Thr Val
 130 135 140
 Lys Trp Glu Pro Ser Thr Glu Arg Leu Tyr Leu Arg Asp Gly Val Leu
 145 150 155 160
 Thr Gly His Asp Asp Met Thr Leu Arg Val Glu Gly Gly Arg His Leu
 165 170 175
 Arg Val Asp Phe Asn Thr Ser Tyr Ile Pro Lys His Ser Ile Asn Met
 180 185 190
 Pro Asp Phe His Phe Ile Asp His Arg Ile Glu Ile Met Glu His Asp
 195 200 205
 Glu Asp Tyr Asn His Val Lys Leu Arg Glu Cys Ala Val Ala Arg Tyr
 210 215 220
 Ser Leu Leu Pro Glu Lys Asn Lys Gly Lys Pro Ile Pro Asn Pro Leu
 225 230 235 240
 Leu Gly Leu Asp Ser Thr Arg Thr Gly
 245

<210> 183

<211> 726
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 183
 atgaagggggg tgaaggaagt aatgaagatc agtctggaga tggactgcac tgttaacggc 60
 gacaaattta cgatcaaagg ggaaggagga ggataccctt acgaaggaac aaattttgta 120
 aaactttag tagacgaaagg cgggcctctg ccgttttctt tcgatatatt gacaccagca 180
 tttatgtatg gaaaccgtgt attcaccaaa tacccaaaag agataccaga ctatttcaag 240
 cagacctttc ctgaaggcta tcaactggag cgaataatga cttttgagga cgggggagta 300
 tgttgcata caagcgacat cagtgtgaaa ggtgactctt tcttctatga cattaagtgc 360
 acctggcatga actttcctcc tcatgggtcca gtgatgcaga gaaagacagt aaaatgggag 420
 ccatccactg aagtaatgta tgttgacgac aagagtgcg gtgtgctgaa gggagatgct 480
 aacatggctc tgttgcttaa agatggccgc catttgagag ttgactttaa cacttcttac 540
 atacccaaga agaaggtcga gaatatgcct gactaccatt ttatagacca ccgcattgag 600
 attctgggca acccagaaga caagccggctc aagctgtacg agattgctac agctcgccat 660
 catgggctga agggtgaagcc tatccctaac cctctcctcg gactcgattc tacgcgtacc 720
 ggtag 726

<210> 184
 <211> 241
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 184
 Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Asp Cys
 1 5 10 15
 Thr Val Asn Gly Asp Lys Phe Thr Ile Lys Gly Glu Gly Gly Tyr
 20 25 30
 Pro Tyr Glu Gly Thr Asn Phe Val Lys Leu Val Val Thr Lys Gly Gly
 35 40 45
 Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Ala Phe Met Tyr Gly
 50 55 60
 Asn Arg Val Phe Thr Lys Tyr Pro Lys Glu Ile Pro Asp Tyr Phe Lys
 65 70 75 80
 Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Ile Met Thr Phe Glu
 85 90 95
 Asp Gly Gly Val Cys Cys Ile Thr Ser Asp Ile Ser Val Lys Gly Asp
 100 105 110
 Ser Phe Phe Tyr Asp Ile Lys Phe Thr Gly Met Asn Phe Pro Pro His
 115 120 125
 Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro Ser Thr Glu
 130 135 140
 Val Met Tyr Val Asp Asp Lys Ser Asp Gly Val Leu Lys Gly Asp Val
 145 150 155 160
 Asn Met Ala Leu Leu Lys Asp Gly Arg His Leu Arg Val Asp Phe
 165 170 175
 Asn Thr Ser Tyr Ile Pro Lys Lys Lys Val Glu Asn Met Pro Asp Tyr
 180 185 190
 His Phe Ile Asp His Arg Ile Glu Ile Leu Gly Asn Pro Glu Asp Lys
 195 200 205
 Pro Val Lys Leu Tyr Glu Ile Ala Thr Ala Arg His His Gly Leu Lys
 210 215 220
 Gly Lys Pro Ile Pro Asn Pro Leu Leu Gly Leu Asp Ser Thr Arg Thr
 225 230 235 240
 Gly

<210> 185
 <211> 726
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 185
 atgaaggggg tgaaggaagt aatgaagatc agtctggaga tggactgcac tgtaacggc 60
 gacaaattta cgatcaaagg ggaaggagga ggataccctt acgaaggaa acagacttta 120
 catcttacag agaaggaagg caagcctctg acgttttctt tcgatgtatt gacaccacaa 180
 ttacagtatg gaaacaagtc attcgtcagc tacccaaaag agataccaga ctatttcaag 240
 cagacctttc ctgaaggcta tcaactggag cgaagcattc cttttcaaga ccaggcctca 300
 tgtaccgtca caagccacat caggatgaaa gaggaagagg agcggcattt cttctatgac 360
 attaaagtca ctggcatgaa ctttcctcct catgggtccag tgatgcagag aaagacagta 420
 aaatgggagc catccactga aaacatttat cctcgcgacg aatttctgga gggacatgac 480
 gacatgactc tgcgggttga aggtggccgc catttgagag ttgactttaa cacttcttac 540
 ataccgaaga agaaggtcga gaatatgcct gactaccatt ttatagacca ccgcattgag 600
 attctgggca acccagaaga caagccggtc aagctgtacg agattgctac agctcgccat 660
 catgggctga agggtaagcc tatccctaac actctcctcg gactcgattc tacgcgtacc 720
 ggtag 726

<210> 186
 <211> 241
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 186
 Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Asp Cys
 1 5 10 15
 Thr Val Asn Gly Asp Lys Phe Thr Ile Lys Gly Glu Gly Gly Gly Tyr
 20 25 30
 Pro Tyr Glu Gly Thr Gln Thr Leu His Leu Thr Glu Lys Glu Gly Lys
 35 40 45
 Pro Leu Thr Phe Ser Phe Asp Val Leu Thr Pro Gln Leu Gln Tyr Gly
 50 55 60
 Asn Lys Ser Phe Val Ser Tyr Pro Lys Glu Ile Pro Asp Tyr Phe Lys
 65 70 75 80
 Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Ser Ile Pro Phe Gln
 85 90 95
 Asp Gln Ala Ser Cys Thr Val Thr Ser His Ile Arg Met Lys Glu Glu
 100 105 110
 Glu Glu Arg His Phe Phe Tyr Asp Ile Lys Phe Thr Gly Met Asn Phe
 115 120 125
 Pro Pro His Gly Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro
 130 135 140
 Ser Thr Glu Asn Ile Tyr Pro Arg Asp Glu Phe Leu Glu Gly His Asp
 145 150 155 160
 Asp Met Thr Leu Arg Val Glu Gly Gly Arg His Leu Arg Val Asp Phe
 165 170 175
 Asn Thr Ser Tyr Ile Pro Lys Lys Val Glu Asn Met Pro Asp Tyr
 180 185 190
 His Phe Ile Asp His Arg Ile Glu Ile Leu Gly Asn Pro Glu Asp Lys
 195 200 205
 Pro Val Lys Leu Tyr Glu Ile Ala Thr Ala Arg His His Gly Leu Lys
 210 215 220
 Gly Lys Pro Ile Pro Asn Thr Leu Leu Gly Leu Asp Ser Thr Arg Thr
 225 230 235 240
 Gly

<210> 187
 <211> 714
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 187
 atgaaggggg tgaaggaagt aatgaagatc agtctggaga tggagggcgc tgttaacggc 60
 caccacttta cgatcaaagg ggaaggagga ggataccctt acgaaggaac acagacttta 120
 catcttacag agaaggaagg caagcctctg ccgttttctt tcgatataatt gacaccagca 180
 tttatgtatg gaaaccgtgt attcaccaaa tacccaaaaag agataccaga ctatttcaag 240
 cagacctttc ctgaaggcta tcaactggag cgaataatga cttttgagga cgggggcgta 300
 tgttgcata caagcgacat cagtgtgaaa ggtgactctt tctactataa gattcacttc 360
 actggcgagt ttcctcctca tgggtccagt atgcagagaa agacagtaaa atgggagcca 420
 tccactgaaa acatttatcc tcgcgacgaa tttctggagg gagatgtcaa catggctctg 480
 ttgcttaaag atggccgcca tttgagagtt gactttaaca cttcttacat acccaagaag 540
 aaggtcgaga atatgcctga ctaccatttt atagaccacc gcattgagat tctgggcaac 600
 ccagaagaca agccgggtcaa gctgtacgag attgtacag ctcgcatca tgggctgaag 660
 ggtaagccta tccctaacc tctcctcgga ctcgattcta cgcgtaccgg ttag 714

<210> 188
 <211> 237
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 188
 Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Glu Gly
 1 5 10 15
 Ala Val Asn Gly His His Phe Thr Ile Lys Gly Glu Gly Gly Gly Tyr
 20 25 30
 Pro Tyr Glu Gly Thr Gln Thr Leu His Leu Thr Glu Lys Glu Gly Lys
 35 40 45
 Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Ala Phe Met Tyr Gly
 50 55 60
 Asn Arg Val Phe Thr Lys Tyr Pro Lys Glu Ile Pro Asp Tyr Phe Lys
 65 70 75 80
 Gln Thr Phe Pro Glu Gly Tyr His Trp Glu Arg Ile Met Thr Phe Glu
 85 90 95
 Asp Gly Gly Val Cys Cys Ile Thr Ser Asp Ile Ser Val Lys Gly Asp
 100 105 110
 Ser Phe Tyr Tyr Lys Ile His Phe Thr Gly Glu Phe Pro Pro His Gly
 115 120 125
 Pro Val Met Gln Arg Lys Thr Val Lys Trp Glu Pro Ser Thr Glu Asn
 130 135 140
 Ile Tyr Pro Arg Asp Glu Phe Leu Glu Gly Asp Val Asn Met Ala Leu
 145 150 155 160
 Leu Leu Lys Asp Gly Arg His Leu Arg Val Asp Phe Asn Thr Ser Tyr
 165 170 175
 Ile Pro Lys Lys Lys Val Glu Asn Met Pro Asp Tyr His Phe Ile Asp
 180 185 190
 His Arg Ile Glu Ile Leu Gly Asn Pro Glu Asp Lys Pro Val Lys Leu
 195 200 205
 Tyr Glu Ile Ala Thr Ala Arg His His Gly Leu Lys Gly Lys Pro Ile
 210 215 220
 Pro Asn Pro Leu Leu Gly Leu Asp Ser Thr Arg Thr Gly
 225 230 235

<210> 189

<211> 720
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 189	atgaagggggg	tgaaggaagt	aatgaagatc	agtctggaga	tggaactgcac	tgtaaacggc	60
	gacaaattta	cgatcaaagg	ggaaggagga	ggataccctt	acgaaggagt	acagtttatg	120
	tctcttgaag	tggtgaatgg	cgcgcctctg	acgttttctt	tcgatgtatt	gacaccagca	180
	tttatgtatg	gaaaccgtgt	attcaccaaa	tacccaaaag	agataccaga	ctatttcaag	240
	cagacctttc	ctgaaggcta	tcactgggag	cgaataatga	cttttgagga	cgggggcgta	300
	tggtgcatca	caagcgacat	cagtgtgaaa	ggtgactctt	tctactataa	gattcacttc	360
	actggcgagt	ttctctctca	tggtccagtg	atgcagagaa	agacagtaaa	atgggagcca	420
	tcctactgaag	taatgtatgt	tgacgacaag	agtgcagggtg	tgctgaagggtg	agatgtcaac	480
	atggctctgt	tgcttaaaaga	tgccggccat	tacacatgtg	tctttaaaac	tatttacaga	540
	tccaagcact	cgatcaacat	gccggatttc	cattttatag	accaccgcat	tgagattctg	600
	ggcaaccagg	aagacaagcc	ggtcaagctg	tacgagattg	ctacagctcg	ccatcatggg	660
	ctgaagggta	agcctatccc	taaccctctc	ctcggactcg	attctacgcg	taccggttag	720

<210> 190
 <211> 239
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated

<400> 190	Met	Lys	Gly	Val	Lys	Glu	Val	Met	Lys	Ile	Ser	Leu	Glu	Met	Asp	Cys
1					5					10					15	
	Thr	Val	Asn	Gly	Asp	Lys	Phe	Thr	Ile	Lys	Gly	Glu	Gly	Gly	Gly	Tyr
			20						25					30		
	Pro	Tyr	Glu	Gly	Val	Gln	Phe	Met	Ser	Leu	Glu	Val	Val	Asn	Gly	Ala
			35					40					45			
	Pro	Leu	Thr	Phe	Ser	Phe	Asp	Val	Leu	Thr	Pro	Ala	Phe	Met	Tyr	Gly
		50					55					60				
	Asn	Arg	Val	Phe	Thr	Lys	Tyr	Pro	Lys	Glu	Ile	Pro	Asp	Tyr	Phe	Lys
65					70					75					80	
	Gln	Thr	Phe	Pro	Glu	Gly	Tyr	His	Trp	Glu	Arg	Ile	Met	Thr	Phe	Glu
				85					90						95	
	Asp	Gly	Gly	Val	Cys	Cys	Ile	Thr	Ser	Asp	Ile	Ser	Val	Lys	Gly	Asp
			100						105					110		
	Ser	Phe	Tyr	Tyr	Lys	Ile	His	Phe	Thr	Gly	Glu	Phe	Pro	Pro	His	Gly
			115					120					125			
	Pro	Val	Met	Gln	Arg	Lys	Thr	Val	Lys	Trp	Glu	Pro	Ser	Thr	Glu	Val
		130					135					140				
	Met	Tyr	Val	Asp	Asp	Lys	Ser	Asp	Gly	Val	Leu	Lys	Gly	Asp	Val	Asn
145					150					155					160	
	Met	Ala	Leu	Leu	Leu	Lys	Asp	Gly	Gly	His	Tyr	Thr	Cys	Val	Phe	Lys
				165					170						175	
	Thr	Ile	Tyr	Arg	Ser	Lys	His	Ser	Ile	Asn	Met	Pro	Asp	Phe	His	Phe
			180					185						190		
	Ile	Asp	His	Arg	Ile	Glu	Ile	Leu	Gly	Asn	Pro	Glu	Asp	Lys	Pro	Val
		195						200					205			
	Lys	Leu	Tyr	Glu	Ile	Ala	Thr	Ala	Arg	His	His	Gly	Leu	Lys	Gly	Lys
		210					215					220				
	Pro	Ile	Pro	Asn	Pro	Leu	Leu	Gly	Leu	Asp	Ser	Thr	Arg	Thr	Gly	
225					230					235						

<210> 191
 <211> 408
 <212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated

<400> 191

atgaaagagg	aagaggagcg	gcatttctac	tataagattc	acttcactgg	cgagtttcct	60
cctcatggtc	cagtgatgca	gagaaagaca	gtaaaatggg	agccatccac	tgaagtaatg	120
tatgttgacg	acaagagtga	cggtgtgctg	aagggagatg	tcaacatggc	tctgttgctt	180
aaagatggcg	gccattacac	atgtgtcttt	aaaactatct	acagatccaa	gcactcgatc	240
aacatgccgg	atttccattt	tatagaccac	cgatttgaga	ttatggagca	tgacgaggac	300
tacaaccatg	tcaagctgcg	cgagattgct	acagctcgcc	atcatgggct	gaagggttaag	360
cctatcccta	accctctcct	cggactcgat	tctacgcgta	ccggttag		408

<210> 192

<211> 135

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated

<400> 192

Met	Lys	Glu	Glu	Glu	Arg	His	Phe	Tyr	Tyr	Lys	Ile	His	Phe	Thr
1				5				10					15	
Gly	Glu	Phe	Pro	Pro	His	Gly	Pro	Val	Met	Gln	Arg	Lys	Thr	Val
			20					25					30	
Trp	Glu	Pro	Ser	Thr	Glu	Val	Met	Tyr	Val	Asp	Asp	Lys	Ser	Asp
			35				40					45		
Val	Leu	Lys	Gly	Asp	Val	Asn	Met	Ala	Leu	Leu	Leu	Lys	Asp	Gly
	50					55					60			
His	Tyr	Thr	Cys	Val	Phe	Lys	Thr	Ile	Tyr	Arg	Ser	Lys	His	Ser
65					70					75				80
Asn	Met	Pro	Asp	Phe	His	Phe	Ile	Asp	His	Arg	Ile	Glu	Ile	Met
				85					90					95
His	Asp	Glu	Asp	Tyr	Asn	His	Val	Lys	Leu	Arg	Glu	Ile	Ala	Thr
			100					105					110	
Arg	His	His	Gly	Leu	Lys	Gly	Lys	Pro	Ile	Pro	Asn	Pro	Leu	Gly
		115					120					125		
Leu	Asp	Ser	Thr	Arg	Thr	Gly								
	130					135								

<210> 193

<211> 327

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated

<400> 193

atgaaggggg	tgaaggaagt	aatgaagatc	agtctggaga	tggaactgcac	tgtaacggc	60
gacaaattta	cgatcaaagg	ggaaggagga	ggataccctt	acgaaggagt	acagtttatg	120
tctcttgaag	tggtgaatgg	cgcgctctg	ccgttttctt	tcgatataat	gacaccagca	180
tttcagtatg	gaaaccgtac	attcaccaaa	taccagccga	tataccagac	tatatcaagc	240
tgtcctttcc	tgagggcctt	acctgggagc	gaagcattcc	ttttcaagac	caggcctcat	300
gtaccgtcac	aagccacatc	aggatga				327

<210> 194

<211> 108

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated

<400> 194

```
Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Asp Cys
1      5      10      15
Thr Val Asn Gly Asp Lys Phe Thr Ile Lys Gly Glu Gly Gly Tyr
20      25      30
Pro Tyr Glu Gly Val Gln Phe Met Ser Leu Glu Val Val Asn Gly Ala
35      40      45
Pro Leu Pro Phe Ser Phe Asp Ile Leu Thr Pro Ala Phe Gln Tyr Gly
50      55      60
Asn Arg Thr Phe Thr Lys Tyr Gln Pro Ile Tyr Gln Thr Ile Ser Ser
65      70      75      80
Cys Pro Phe Leu Arg Ala Leu Pro Gly Ser Glu Ala Phe Leu Phe Lys
85      90      95
Thr Arg Pro His Val Pro Ser Gln Ala Thr Ser Gly
100      105
```

<210> 195

<211> 327

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated

<400> 195

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atgaaggggg tgaaggaagt aatgaagatc agtctggaga tggactgcac tgttaacggc      60
gacaaattta cgatcaaagg ggaaggagga ggataccctt acgaaggaac acagacttta      120
catcttacag agaaggaagg caagcctctg acgttttctt tcgatgtatt gacaccacaa      180
ttacagtatg gaaacaagtc attcgtcagc taccagccg atataccaga ctatatcaag      240
ctgtccttcc tgagggcttt acctgggagc gaagcattcc ttttcaagac caggcctcat      300
gtaccgtcac aagcgacatc agtatga                                     327
```

<210> 196

<211> 108

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated

<400> 196

```
Met Lys Gly Val Lys Glu Val Met Lys Ile Ser Leu Glu Met Asp Cys
1      5      10      15
Thr Val Asn Gly Asp Lys Phe Thr Ile Lys Gly Glu Gly Gly Tyr
20      25      30
Pro Tyr Glu Gly Thr Gln Thr Leu His Leu Thr Glu Lys Glu Gly Lys
35      40      45
Pro Leu Thr Phe Ser Phe Asp Val Leu Thr Pro Gln Leu Gln Tyr Gly
50      55      60
Asn Lys Ser Phe Val Ser Tyr Pro Ala Asp Ile Pro Asp Tyr Ile Lys
65      70      75      80
Leu Ser Phe Leu Arg Ala Leu Pro Gly Ser Glu Ala Phe Leu Phe Lys
85      90      95
Thr Arg Pro His Val Pro Ser Gln Ala Thr Ser Val
100      105
```

<210> 197

<211> 408

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated

<400> 197

atgaaaagta	acaactgttt	ctactataag	attcacttca	ctggcgagtt	tcctcctcat	60
gggccagtga	tgcagagaaa	gacagtaaaa	tgggagccat	ccactgaacg	attgtatctt	120
cgcgacggtg	tgctgacggg	acatgacgac	atgactctgc	gggttgaagg	tggccgccat	180
ttgagagttg	actttaacac	ttcttacata	cccaagaaga	aggctgagaa	tatgcctgac	240
taccatttta	tagaccaccg	cattgagatt	atggagcatg	acgaggacta	caaccatgtc	300
aagctgcgcg	agtgtgctgt	agctcgctat	tctctgctgc	ctgagaagaa	caagggtaag	360
cctatcccta	accctctcct	cggactcgat	tctacgcgta	ccggttag		408

<210> 198

<211> 135

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated

<400> 198

Met	Lys	Ser	Asn	Asn	Cys	Phe	Tyr	Tyr	Lys	Ile	His	Phe	Thr	Gly	Glu	
1				5					10					15		
Phe	Pro	Pro	His	Gly	Pro	Val	Met	Gln	Arg	Lys	Thr	Val	Lys	Trp	Glu	
			20					25					30			
Pro	Ser	Thr	Glu	Arg	Leu	Tyr	Leu	Arg	Asp	Gly	Val	Leu	Thr	Gly	His	
		35					40					45				
Asp	Asp	Met	Thr	Leu	Arg	Val	Glu	Gly	Gly	Arg	His	Leu	Arg	Val	Asp	
	50					55					60					
Phe	Asn	Thr	Ser	Tyr	Ile	Pro	Lys	Lys	Lys	Val	Glu	Asn	Met	Pro	Asp	
65					70				75						80	
Tyr	His	Phe	Ile	Asp	His	Arg	Ile	Glu	Ile	Met	Glu	His	Asp	Glu	Asp	
			85						90					95		
Tyr	Asn	His	Val	Lys	Leu	Arg	Glu	Cys	Ala	Val	Ala	Arg	Tyr	Ser	Leu	
			100					105					110			
Leu	Pro	Glu	Lys	Asn	Lys	Gly	Lys	Pro	Ile	Pro	Asn	Pro	Leu	Leu	Gly	
		115					120					125				
Leu	Asp	Ser	Thr	Arg	Thr	Gly										
	130					135										